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**ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY CLASS I PERMIT**

**COMPANY:** *Tucson Electric Power Company*

**FACILITY:** *Irvington Generating Station*

**PERMIT #:** *1000102*

**DATE ISSUED:** **July 26, 1999**

**EXPIRY DATE:** **July 26, 2004**

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**ABSTRACT**

This operating permit is issued to Tucson Electric Power Company (TEP), the Permittee, for operation of their Irvington Generating Station (IGS) located at 3950 East Irvington Road, Tucson, Arizona. IGS generates electricity. This is accomplished by combustion of fuels. There are four steam turbine units and three gas turbine units at the station. The net capacities and fuels used by the various units are as follows :

Unit ID	Unit I1	Unit I2	Unit I3	Unit I4	Unit IGT1	Unit IGT2	Unit IGT3
Net Capacity	81 MW	81 MW	104 MW	156 MW	24 MW	24 MW	25 MW
Primary Fuel	Natural Gas	Natural Gas	Natural Gas	Coal	Natural Gas	Natural Gas	Natural Gas
Alternate Fuels	Fuel Oil, Landfill Gas	Fuel Oil, Landfill Gas	Fuel Oil, Landfill Gas	Natural Gas, Fuel Oil, Landfill Gas	Fuel Oil	Fuel Oil	Fuel Oil

The exhaust gases from Unit I4 pass through a Baghouse before exiting to the atmosphere. The facility is permitted to operate 24 hours a day, 365 days a year.

IGS is a "major source" . The potential emission rates of the following pollutants are greater than 100 tons per year: (i) Particulate Matter, (ii) Sulfur Dioxide, (iii) Nitrogen Oxides, (iv) Carbon Monoxides, and (v) Volatile Organic Compounds. IGS is subject to the Acid Rain Program of the Clean Air Act. This permit is issued in accordance with Title V of the Clean Air Act, and Title 49, Chapter 3 of the Arizona Revised Statutes. Air emissions from IGS are governed by regulations drawn from the Arizona State Implementation Plan, Pima County Implementation Plan, and Title 40 of the Code of Federal Regulations. All definitions, terms, and conditions used in this permit conform to those in the Arizona Administrative Code R18-2-101 et. seq. (A.A.C.) and 40 Code of Federal Regulations (CFR), except as otherwise defined in this permit. Unless noted otherwise, references cited in the permit conditions refer to the A.A.C. All terms and

conditions of this permit are federally enforceable under the Clean Air Act.

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**TABLE 1 : SUMMARY TABLE**

Table 1 summarizes certain requirements applicable to Irvington Station's operations. It is intended for reference use only. The enforceable terms and conditions of this permit are contained in Attachments A through F of this permit.

Emission Source	Pollutants	Control Measure	Emission Standard	Monitoring/Recordkeeping	Reporting <sup>‡</sup>	Testing
P1 Irvington Station Unit #1 Boiler (Combustion Engineering, 1957, 81 MW Net), Serial Number 18580 (Unit I1)  (Fuel-100% Natural Gas, Co-firing Natural Gas and Landfill Gas)	NOx	-	CAA Title IV / See Attachment F	CAA Title IV / See Attachment F	CAA Title IV / See Attachment F	One performance test during course of permit term. Method 7. Once after rolling 12 month total hours of operation > 680 if Unit I3 loses "peaking unit" status.
P2 Irvington Station Unit #2 Boiler (Combustion Engineering, 1959, 80 MW Net), Serial Number 19065 (Unit I2)  (Fuel-100% Natural Gas, Co-firing Natural Gas and Landfill Gas)	SO2	-	CAA Title IV / See Attachment F	CAA Title IV / See Attachment F	CAA Title IV / See Attachment F	-
	PM	-	$E = 1.02Q^{0.769}$	-	-	-
P3 Irvington Station Unit #3 Boiler (Combustion Engineering, 1961, 104 MW Net), Serial Number 19485 (Unit I3)  (Fuel-100% Natural Gas)  R18-2-702(B), R18-2-703(C)  CAA Title IV	CO	-	**	-	-	-One performance test during course of permit term. Method 10. Once after rolling 12 month total hours of operation > 6250 (Units I1 and I2), 4750 (Unit I3 if it loses "peaking unit" status)
	Visible	-	Opacity ≤ 40%	-	-	-

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<p>P1 Irvington Station Unit #1 Boiler (Combustion Engineering, 1957, 81 MW Net), Serial Number 18580 (Unit I1)</p> <p>(Fuel-100% Fuel Oil, Co-firing Fuel Oil and Natural Gas, Co-firing Fuel Oil and Landfill Gas, Co-firing Fuel Oil, Natural Gas and Landfill Gas)</p>	NOx	-	CAA Title IV / See Attachment F	CAA Title IV / See Attachment F	CAA Title IV / See Attachment F	One performance test during course of permit term. Method 7. Once after rolling 12 month total hours of operation > 680 if Unit I3 loses "peaking unit" status.
<p>P2 Irvington Station Unit #2 Boiler (Combustion Engineering, 1959, 80 MW Net), Serial Number 19065 (Unit I2)</p> <p>(Fuel-100% Fuel Oil, Co-firing Fuel Oil and Natural Gas, Co-firing Fuel Oil and Landfill Gas, Co-firing Fuel Oil, Natural Gas and Landfill Gas)</p>	SO2	-	<p>- E &lt; 1 lb SO2max. 3-hr avg./ MBtu heat input</p> <p>-CAA Title IV / See Attachment F</p>	<p>- Record of fuel supplier certification including: name of fuel oil supplier, sulfur content of fuel oil, method used to determine sulfur content. Perform engineering calculation each time there is change in sulfur content to demonstrate compliance w/ standard.</p> <p>--CAA Title IV / See Attachment F</p>	CAA Title IV / See Attachment F	Annual performance test. Method 6
<p>P3 Irvington Station Unit #3 Boiler (Combustion Engineering 1961 104MW Net), Serial Number 19485 (Unit I3)</p> <p>(Fuel-100% Fuel Oil, Co-firing Fuel Oil and Natural Gas) R18-2-702(B), R18-2-703(C), R18-2-703(E.1)</p>	PM	-	$E = 1.02Q^{0.769}$	Record of contractual agreement with information on heating value, ash content. Record of fuel firing rate. Perform engineering calculations each time there is change in above parameters to demonstrate compliance w/ standard.	-	-

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	Visible	-	Opacity <= 40%	- Record of dates and hours of operation when using fuel oil	-	-- If fuel oil combusted continuously >48 hours and < 168 hours, one Method 9 opacity observation If fuel oil is combusted > 168 hours, once a week Method 9 opacity observation
P4 Irvington Station Unit #4 Boiler (Foster Wheeler, 1964, 110 MW Net), Serial Number 75-19847 (Unit 14)	NOx	-	- NOx <= 0.7 lb/MMBtu heat input max 3 hr avg calculated as nitrogen dioxide  - CAA Title IV / See Attachment F	- Continuous Emissions Monitoring System - CAA Title IV / See Attachment F	-Quarterly excess emissions -CAA Title IV / See Attachment F	Annual performance test. Method 7
(Fuel- 100% Coal, Co-firing Coal and Natural Gas, Co-firing Coal and Landfill Gas,, Co-firing Landfill Gas, Natural Gas and Coal)  R18-2-702(B), R18-2-703(C), R18-2-703(G.1)  Installation Permit 1156	SO2	-	- E < 1 lb SO2max. 3-hr avg./MBtu heat input - Coal Sulfur Content <+ 0.5% by wt. At 10,000 Btu/lb - CAA Title IV / See Attachment F	- Continuous Emissions Monitoring System - CAA Title IV / See Attachment F	-Submit coal analysis on quarterly basis  -Quarterly excess emissions  - CAA Title IV / See Attachment F	Annual performance test. Method 6
CAA Title IV	PM	Baghouse	$E = 1.02Q^{0.769}$	-Maintain and operate baghouse in accordance with good air pollution control practices -If 24-hour rolling average opacity exceeds 15%, initiate corrective action w/in 24 hrs. -Log in ink/electronic format record of 24-hr rolling average opacity measurements	-	-Annual performance test / Method 5

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	CO	-	**	-	-	Performance test once during the first set of annual performance tests for other pollutants. Method 10.
	Visible	-	Opacity <= 20%	Continuous Opacity Monitor	---Quarterly excess emissions	Annual performance test. Method 9
<p>P4 Irvington Station Unit #4 Boiler (Foster Wheeler, 1964, 156 MW Net), Serial Number 75-19847 (Unit I4)</p> <p><b>(Fuel-100% Natural Gas, Co-firing Natural Gas and Landfill Gas)</b></p> <p>R18-2-702(B), R18-2-703(C)</p> <p>Installation Permit 1156</p> <p>CAA Title IV</p>	NOx	-	- NOx <= 0.7 lb/MMBtu heat input max 3 hr avg calculated as nitrogen dioxide - CAA Title IV / See Attachment F	- Continuous Emissions Monitoring System - CAA Title IV / See Attachment F	CAA Title IV / See Attachment F	Annual performance test. Method 7
	SO2	-	- E < 1 lb SO2max. 3-hr avg./MBtu heat input - CAA Title IV / See Attachment F	- 40 CFR Part 75 exempted method utilizing emission factor - CAA Title IV / See Attachment F	CAA Title IV / See Attachment F	Annual performance test. Method 6
	PM	-	$E = 1.02Q^{0.769}$	-	-	Annual performance test / Method 5
	CO	-	**	-	-	Performance test once during the first set of annual performance tests for other pollutants. Method 10.
	Visible	-	Opacity <= 20%	- -	-	Annual performance test. Method 9

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Emission Source	Pollutants	Control Measure	Emission Standard	Monitoring/Recordkeeping	Reporting <sup>‡</sup>	Testing
P4 Irvington Station Unit #4 Boiler (Foster Wheeler, 1964, 156 MW Net), Serial Number 75-19847 (Unit 14) - Operating Scenario 3	NOx	-	- NOx <= 0.7 lb/MMBtu heat input max 3 hr avg calculated as nitrogen dioxide - CAA Title IV / See Attachment F	- Continuous Emissions Monitoring System - CAA Title IV / See Attachment F	-Quarterly excess emissions  CAA Title IV / See Attachment F	Annual performance test. Method 7
(Fuel-100% Fuel Oil, Co-firing Fuel Oil and Natural Gas, Co-firing Fuel Oil and Landfill Gas, Co-firing Fuel Oil, Natural Gas and Landfill Gas)	SO2	-	- E < 1 lb SO2max. 3-hr avg./MBtu heat input - CAA Title IV / See Attachment F	- Continuous Emissions Monitoring System - CAA Title IV / See Attachment F	-Quarterly excess emissions  - CAA Title IV / See Attachment F	Annual performance test. Method 6
R18-2-702(B), R18-2-703(C), R18-2-703(E.1)  Installation Permit 1156	PM	-	$E = 1.02Q^{0.769}$	- Record of contractual agreement with information on heating value, ash content. Record of fuel firing rate. Perform engineering calculations each time there is change in above parameters to demonstrate compliance w/ standard.	-	Annual performance test / Method 5
CAA Title IV	CO	-	**	-	-	Performance test once during the first set of annual performance tests for other pollutants. Method 10.
	Visible	-	Opacity <= 20%	Continuous Opacity Monitor	-Quarterly excess emissions	Annual performance test. Method 9



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P5 <i>Irvington Westinghouse Unit #1 Gas Turbine, Model W-251-B, Serial Number 1782088-1, 1972, 24 MW Net (Unit IGT1)</i>	NOx	-	**	-	-	One performance test during course of permit term. Method 7. Once after rolling 12 month total hours of operation > 730
<b>(Fuel-100% Natural Gas)</b> P6 <i>Irvington Westinghouse Unit #2 Gas Turbine, Model W-251-B, Serial Number 1782086-1, 1972, 24.5 MW Net (Unit IGT2)</i>	SO2	-	**	Daily sulfur content of fuel OR Copy of FERC-approved Tariff agreement, total sulfur < 0.8 wt.%	Any daily period when sulfur > 0.8% OR Any change in Tariff agreement relating to sulfur content within 30 days	-
<b>(Fuel-100% Natural Gas)</b> P7 <i>Irvington Westinghouse Unit #3 Gas Turbine, Model W-251-B, Serial Number 1782084-1, 1973, 25 MW Net (Unit IGT3)</i>	PM	-	$E = 1.02Q^{0.769}$	-		-
<b>(Fuel-100% Natural Gas)</b> R18-2-719.C.1, R18-2-719.E, R18-2-719.J	CO	-	**	-	-	One performance test during course of permit term. Method 10. Once after rolling 12 month total hours of operation > 4500
	Visible	-	Opacity <= 40% for any period greater than 10 consecutive seconds	-	-	-

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P5 Irvington Westinghouse Unit #1 Gas Turbine, Model W-251-B, Serial Number 1782088-1, 1972, 24 MW Net(Unit IGT1)	NOx	-	**	-	-	-One performance test during course of permit term. Method 7. Once after rolling 12 month total hours of operation > 730
(Fuel- 100% Fuel Oil, Co-firing Fuel Oil and Natural Gas )	SO2	-	E = 1.0 lb SO2/Mbtu heat input	Record of fuel supplier certification including: name of fuel oil supplier, sulfur content of fuel oil, method used to determine sulfur content. Perform engineering calculation each time there is change in sulfur content to demonstrate compliance w/ standard	Report any daily period during which fuel sulfur content exceeds 0.8% by wt.	Annual performance test. Method 6
P6 Irvington Westinghouse Unit #2 Gas Turbine, Model W-251-B, Serial Number 1782086-1, 1972, 24.5 MW Net(Unit IGT2)	PM	-	E = 1.02Q <sup>0.769</sup>	Record of contractual agreement with information on heating value, ash content. Record of fuel firing rate. Perform engineering calculations each time there is change in above parameters to demonstrate compliance w/ standard.	-	-
(Fuel-100% Fuel Oil, Co-firing Fuel Oil and Natural Gas-)	CO	-	**	-	-	-One performance test during course of permit term. Method 10. Once after rolling 12 month total hours of operation>730
P7 Irvington Westinghouse Unit #3 Gas Turbine, Model W-251-B, Serial Number 1782084-1, 25 MW Net (Unit IGT3)	Visible	-	Opacity < = 40%	- Record of dates and hours of operation when using fuel oil	-	- If fuel oil combusted continuously>48 hours and < 168 hours, one Method 9 opacity observation If fuel oil is combusted continuously > 168 hours, once a week Method 9 opacity observation
(Fuel-100% Fuel Oil, Co-firing Fuel Oil and Natural Gas)						
R18-2-719.C.1, R18-2-719.E, R18-2-719.F, R18-2-719.J						

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P8 <i>Power Production - Auxiliary Boiler (Babcock-Wilcox, 1972), Serial Number 23583, (Unit IAUX)</i>  <b>(Fuel-100% Natural Gas, 100% Fuel Oil, Co-firing Fuel Oil and Natural Gas)</b>  R18-2-724.B, R18-2-724.C.1, R18-2-724.E, R18-2-724.G, R18-2-724.J	NOx	-	**	-	-	-
	SO2	-	<u>When using fuel oil or co-firing</u> E = 1.0 lb SO2/Mbtu heat input	-	-	-
	PM	-	$E = 1.02Q^{0.769}$	-	-	-
	Visible	-	Opacity <= 15%	-	Report all 6-minute periods when opacity > 15% as measured by Method 9	-
P9 <i>Cooling Towers : Units 11E, 12E, 13E and 14E</i>  R18-2-730(1)(a), R18-2-730(D), R18-2-730(G)	PM	-	-Minimize air pollution  -E = $55P^{0.11}$ - 40.0	-	-	-

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P10 <i>Irvington Westinghouse Unit #1 Gas Turbine Diesel Starter Engine (Cummins), Serial Number 772267-3 (Unit IGT1A)</i>	NOx	-	**	-	-	-
P11 <i>Irvington Westinghouse Unit #2 Gas Turbine Diesel Starter Engine (Cummins), Serial Number 769853-3 (Unit IGT2A)</i>	SO2	-	E = 1.0 lb SO2/Mbtu heat input	Record of fuel supplier certification including: name of fuel oil supplier, sulfur content of fuel oil, method used to determine sulfur content. Perform engineering calculation each time there is change in sulfur content to demonstrate compliance w/ standard	Report any daily period during which fuel sulfur content exceeds 0.8% by wt.	-
P12 <i>Irvington Westinghouse Unit #3 Gas Turbine Diesel Starter Engine (Cummins), Serial Number 778518-3 (Unit IGT3A)</i>	PM	-	E = 1.02Q <sup>0.769</sup>	Record of contractual agreement with information on heating value, ash content. Record of fuel firing rate. Perform engineering calculations each time there is change in above parameters to demonstrate compliance w/ standard.	-	-
R18-2-719	Visible	-	Opacity <= 40%	- Record of dates and hours of operation when using fuel oil	-	- If fuel oil combusted continuously > 48 hours and < 168 hours, one Method 9 opacity observation If fuel oil is combusted continuously > 168 hours, once a week Method 9 opacity observation
P13 <i>Boiler and Turbine Support Equipment : (I1B, I1C, I1D, I2B, I2C, I3B, I3C, I4B, I4C, I4D, IGT1B, IGT2B, IGT3B)</i>	VOC	-	Minimize air pollution	-	-	-
R18-2-730(D)						

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<b>P14 Coal Handling System</b>  R18-2-716, R18-2-702(B), PCC 17.16.310.B.2  Installation Permit 1156 Condition 7	PM	1. Rotary Car Dumper : Enclosure, Spray Bars, Baghouse 2. Live Coal Storage Facility : Enclosure, Baghouse 3. Crusher Facility : Enclosure, Baghouse 4. Tower 4 : Enclosure, Baghouse 5. As received sampler enclosure 6. Emergency Storage Telescopic Chute 7. Conveyors C2, C4, C5, C6, C7A, C7B : Weather Covers	$E = 17.31P^{0.16}$	- Maintain and operate enclosures, spray bars, weather covers and baghouses in accordance with good air pollution control practices.	-	-
	Visible	-	$\leq 40\%$	Conduct a weekly visual observation of the coal handling system when it is in operation. This weekly observation shall include observation of all exposed transfer points, open transfer points, the coal storage pile, and dust collectors.		
<b>P15 Flyash Handling Area</b>  R18-2-730(A.1.a), R18-2-702(B)  Installation Permit 1156 Conditions 10 and 11	PM	Dust Collectors, Paving, Cut-off valve on hopper, wetting, enclosed hopper trucks, closed gravity feed system	$- E = 4.10P^{0.67}$ or $E = 55.0P^{0.11} - 40$	- Maintain and operate enclosures, spray bars, weather covers and baghouses in accordance with good air pollution control practices.	-	-
	Visible	-	$\leq 40\%$	Permittee shall conduct a weekly visual observation of the flyash handling area when it is in operation. This weekly observation shall include observation of all exposed transfer points, open transfer points, and dust collectors.	-	-

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<b>P16 Miscellaneous Hot Water and Space Heaters</b>  <b>(Fuel-100% Natural Gas)</b>  R18-2-724.B, R18-2-724.C.1, R18-2-724.E, R18-2-724.J	NO <sub>x</sub>	-	**	-	-	-
	SO <sub>2</sub>	-	**	-	-	-
	PM	-	$E = 1.02Q^{0.769}$	-	-	-
	Visible	-	Opacity ≤ 15%		Report all 6-minute periods when opacity > 15% as measured by Method 9	-
<b>P17 Allied Signal Microturbine</b> <i>(Alpha, S.No. 4, 40 kW, 1998)</i>  <b>(Fuel-100% Natural Gas)</b>  R18-2-719.C.1, R18-2-719.E	SO <sub>2</sub>	-	**	Daily sulfur content of fuel OR Copy of FERC-approved Tariff agreement, total sulfur < 0.8 wt. %	Any daily period when sulfur > 0.8% OR Any change in Tariff agreement relating to sulfur content within 30 days	-
	PM	-	$E = 1.02Q^{0.769}$	Engineering calculations	-	-
	Visible	-	< 40%	-	-	-
<u><b>FUGITIVE SOURCES</b></u>  F1 Open Areas etc.  <i>a. Driveways, parking areas, vacant lots</i> [A.A.C. R18-2-604.A, IP 1156]	Visible	Dust suppressants, wetting agents, paving, bar access	≤ 40 %	Date and type of control measure	--	--

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<i>b. Unused open areas</i> [A.A.C.R18-2-604.A,IP 1156]	Visible	Dust suppressants, wetting agents, paving, bar access	<= 40 %	Date and type of control measure	--	--
<i>c. Open areas (repair, construction etc.)</i> [A.A.C.R18-2-604.A,IP 1156]	Visible	Dust suppressants, wetting agents	<= 40%	Date and type of control measure	--	--
<i>d. Roadways (repair, construction)</i> [A.A.C.R18-2-605.A,IP 1156]	Visible	Dust suppressants, wetting agents	<= 40 %	Date and type of control measure	--	--
<i>e. Material transportation</i> [A.A.C. R18-2-605.B,IP 1156]	Visible	Covering, dust suppressants, wetting agents	<= 40 %	Date and type of control measure	--	--
<i>f. Material handling</i> [A.A.C. R18-2-606,IP 1156]	Visible	Dust suppressants, wetting agents	<= 40 %	Date and type of control measure	--	--
<i>g. Storage piles</i> [A.A.C. R18-2-607.A,IP 1156]	Visible	Covering, dust suppressants, wetting agents	<= 40 %	Date and type of control measure	--	--
<i>h. Stacking and reclaiming machinery at storage piles</i> [A.A.C. R18-2-607.B,IP 1156]	Visible	Minimum fall, dust suppressants, wetting agents	<=40 %	Date and type of control measure	--	--
<i>i. Roadway and site cleaning</i> [A.A.C. R18-2-804.B]	Visible	Dust suppressants, wetting agents	<= 40 %	Date and type of control measure	--	--

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F2 <i>Emergency Coal Storage Pile</i>  R18-2-607 Installation Permit 1156	PM	Emergency Storage Telescopic Chute	**	-Conduct a weekly visual observation of the coal handling system when it is in operation. This weekly observation shall include observation of all exposed transfer points, open transfer points, the coal storage pile, and dust collectors.	-	-
	Visible	-	Opacity <= 40%	-	-	-
F3 <i>Other Non-Point Sources</i>  <i>a. Open burning</i> [A.A.C. R18-2-602]	Visible	No controls installed	**	Copies of all open burning permits on file	--	--
<i>b. Abrasive Blasting</i> R18-2-726, R18-2-702.B	Visible	Wet blasting, Enclosures	<= 40 %	Date, duration of project. Control measures used	-	-
<i>c. Spray Painting</i>  R18-2-702.B, R18-2-727, Applicable SIP R9-3-527.C	VOC	Enclosures	96% capture of overspray except for arch. coating and spot painting, dispose <1.5 gal.	Date, duration of project. Control measures used, MSDS of paints used	-	-
	Visible	Enclosures	<= 40 %	Date, duration of project. Control measures used	-	-
<i>d. Mobile Sources</i>  <i>d.1. Off- Road Machinery</i>  A.A.C. R18-2-802	Visible	-	<= 40 % for any period greater than 10 consecutive seconds	Record of all emissions related maintenance activities performed on Permittee's off-road machinery utilized within the station property line	-	-
<i>d.2. Roadway and site cleaning machinery</i>  A.A.C. R18-2-804	Visible	-	<= 40 % for any period greater than 10 consecutive seconds	Record of all emissions related maintenance activities performed on Permittee's roadway and site cleaning machinery utilized within the station property line	-	-



**TABLE 1 : SUMMARY TABLE**

Table 1 summarizes certain requirements applicable to Irvington Station's operations. It is intended for reference use only. The enforceable terms and conditions of this permit are contained in Attachments A through F of this permit.

Emission Source	Pollutants	Control Measure	Emission Standard	Monitoring/Recordkeeping	Reporting <sup>‡</sup>	Testing
<i>e. Demolition/Renovation</i> R18-2-1101.A.8, PCC 17.16.100.D, PCC 17.16.540	Asbestos	As required by rule	As required by rule	Relevant paperwork on file	-	-
<i>f. Nonvehicle Air Conditioner Maintenance and/or Services</i> 40CFR82, Subpart F	Ozone depleting substances	As required by rule	As required by rule	Relevant paperwork on file	-	-

- : Not necessary

\*\* : Not applicable

‡ : In addition to Attachment B/Attachment F reports, Permittee is required to submit Permit Deviation Reports, Compliance Certifications, and Annual Emissions Inventory Questionnaires

## **ATTACHMENT "A": GENERAL PROVISIONS**

Air Quality Control Permit No. 1000102  
For  
***Tucson Electric Power - Irvington Generating Station***

### **I. PERMIT EXPIRATION AND RENEWAL**

[A.R.S. § 49-426.F, A.A.C. R18-2-304.C.2 and 306.A.1]

- A. This permit is valid for a period of five years from the date of issuance of the permit.
- B. The Permittee shall submit an application for renewal of this permit at least 6 months, but not more than 18 months prior to the date of permit expiration.

### **II. COMPLIANCE WITH PERMIT CONDITIONS**

[A.A.C. R18-2-306.A.8, A.R.S. 49-463, A.R.S. 49-464]

- A. The Permittee shall comply with all the conditions contained in Attachments "A" through "F" of this permit including all applicable requirements of Arizona air quality statutes and the air quality rules. Any permit noncompliance is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or for denial of a permit renewal application. In addition, noncompliance with any federally enforceable requirement constitutes a violation of the Clean Air Act.
- B. Need to halt or reduce activity not a defense. It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

### **III. PERMIT REVISION, REOPENING, REVOCATION AND REISSUANCE, OR TERMINATION FOR CAUSE**

[A.A.C. R18-2-306.A.8.c, 321]

- A. The permit may be revised, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a permit revision, revocation and reissuance, or termination; or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
- B. The permit shall be reopened and revised under any of the following circumstances:
  - 1. Additional applicable requirements under the Act become applicable to the Class I source. Such reopening shall only occur if there are three or more years remaining in the permit term. The reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to R18-2-322(B). Any permit revision required pursuant to this subparagraph shall comply with provisions in R18-2-322 for permit renewal and

shall reset the five year permit term.

2. Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the Class I permit.
  3. The Director or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.
  4. The Director or the Administrator determines that the permit needs to be revised or revoked to assure compliance with the applicable requirements.
- C. Proceedings to reopen and issue a permit, including appeal of any final action relating to a permit reopening, shall follow the same procedures as apply to initial permit issuance and shall, except for reopenings under paragraph 1 above, affect only those parts of the permit for which cause to reopen exists. Such reopenings shall be made as expeditiously as practicable. Permit reopenings for reasons other than those stated in paragraph III.B.1 of this Attachment shall not result in a resetting of the five year permit term.

#### **IV. POSTING OF PERMIT**

[A.A.C. R18-2-315]

- A. Permittee shall post such permit, or a certificate of permit issuance on location where the facility is located in such a manner as to be clearly visible and accessible. All equipment covered by the permit shall be clearly marked with one of the following:
1. Current permit number.
  2. Serial number or other equipment number that is also listed in the permit to identify that piece of equipment.
- B. A copy of the complete permit shall be kept on the site.

#### **V. FEE PAYMENT**

[A.A.C. R18-2-326, 306.A.9.]

Permittee shall pay fees to the Director pursuant to A.R.S. § 49-426(E) and A.A.C. R18-2-326.

#### **VI. ANNUAL EMISSIONS INVENTORY QUESTIONNAIRE**

[A.A.C. R18-2-327]

- A. Permittee shall complete and submit to the Director an annual emissions inventory questionnaire. The questionnaire is due by March 31 or ninety days after the Director makes the inventory form available each year, whichever occurs later, and shall include emission information for the previous calendar year.
- B. The questionnaire shall be on a form provided by the Director and shall include the information

required by A.A.C. R18-2-327.

## **VII. COMPLIANCE CERTIFICATION**

- A. Permittee shall submit a compliance certification to the Director twice each year, which describes the compliance status of the source with respect to each permit condition. The first certification shall be submitted no later than May 15th, and shall report the compliance status of the source during the period between October 1st of the previous year, and March 31st of the current year. The second certification shall be submitted no later than November 15th, and shall report the compliance status of the source during the period between April 1st and September 30th of the current year. The certification submittal deadlines may be extended by receiving written approval from the Director [A.A.C. R18-2-309.2.a]

The compliance certifications shall include the following:

1. Identification of each term or condition of the permit that is the basis of the certification; [A.A.C. R18-2-309.2.c.i]
2. Compliance status of each applicable requirement; [A.A.C. R18-2-309.2.c.ii]
3. Whether compliance was based on continuous or intermittent data; [A.A.C. R18-2-309.2.c.iii]
4. Method(s) used for determining the compliance status of the source, currently and over the reporting period; [A.A.C. R18-2-309.2.c.iv]
5. A progress report on all outstanding compliance schedules submitted pursuant to Section XI.D of this Attachment shall be attached to the compliance certification. Progress reports submitted with compliance certifications shall satisfy the reporting requirements of A.A.C. R18-2-309.5.d. [A.A.C. R18-2-309(2)(c)(v), A.A.C. R18-2-309.5.d]

- B. A copy of all compliance certifications for Class I permits shall also be submitted to EPA Region 9. [A.A.C. R18-2-309.2.d]

## **VIII. CERTIFICATION OF TRUTH, ACCURACY AND COMPLETENESS** [A.A.C. R18-2-309.3]

Any document required to be submitted by this permit, including reports, shall contain a certification by a responsible official of truth, accuracy, and completeness. This certification and any other certification required under this part shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

## **IX. INSPECTION AND ENTRY** [A.A.C. R18-2-309.4]

The Permittee shall allow the Director or the authorized representative of the Director upon presentation of proper credentials to:

- A. Enter upon the Permittee's premises where a source is located or emissions-related activity is conducted, or where records are required to be kept under the conditions of the permit;
- B. Have access to and copy, at reasonable times, any records that are required to be kept under the conditions of the permit;
- C. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit;
- D. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; and
- E. Record any inspection by use of written, electronic, magnetic and photographic media.

## **X. PERMIT REVISION PURSUANT TO FEDERAL HAZARDOUS AIR POLLUTANT STANDARD**

[A.A.C. R18-2-304.C.4]

If this source becomes subject to a standard promulgated by the Administrator pursuant to section 112(d) of the Act, then the Permittee shall, within twelve months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard.

## **XI. REPORTING OF EXCESS EMISSIONS, PERMIT DEVIATIONS, AND EMERGENCIES**

### **A. EXCESS EMISSIONS REPORTING**

[A.A.C. R18-2-310.C]

#### **1. Excess emissions as defined in A.A.C. R18-2-101(37) shall be reported as follows:**

##### **a. The Permittee shall report to the Director any emissions in excess of the limits established by this permit. Such report shall be in two parts as specified below:**

- (1) Notification by telephone or facsimile within 24 hours of the time when the Permittee first learned of the occurrence of excess emissions including all available information from paragraph b. of this subsection.
- (2) Detailed written notification within 72 hours of the notification pursuant to subparagraph (1) of this paragraph.

##### **b. Report shall contain the following information:**

- (1) Identity of each stack or other emission point where the excess emissions occurred.

- (2) Magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions.
  - (3) Date, time and duration or expected duration of the excess emissions.
  - (4) Identity of the equipment from which the excess emissions emanated.
  - (5) Nature and cause of such emissions.
  - (6) If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunctions.
  - (7) Steps taken to limit the excess emissions. If the source's permit contains procedures governing source operation during periods of start-up or malfunction and the excess emissions resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with the permit procedures.
2. In the case of continuous or recurring excess emissions, the notification requirements of this section shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in such notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period or changes in the nature of the emissions as originally reported shall require additional notification pursuant to subsection A.3.a.(2) of this Section. [A.A.C. R18-2-310.D]
  3. It shall be the burden of the Permittee to demonstrate, through submission of the data and information required by this section, that all reasonable and practicable measures within the Permittee's control were implemented to prevent the occurrence of excess emissions. [A.A.C. R18-2-310.B]

#### B. PERMIT DEVIATIONS REPORTING

[A.A.C. R18-2-306.A.5]

1. A deviation means any situation in which an emissions unit fails to meet a permit term or condition. A deviation is not always a violation. A deviation can be determined through observation or through review of data obtained from any testing, monitoring, or recordkeeping established in this permit. For a situation lasting more than 24 hours which constitutes a deviation, each 24 hour period is considered a separate deviation. Included in the meaning are any of the following:
  - a. A condition where emissions exceeded an emission limitation or standard;
  - b. A condition where process or control device parameter values demonstrate that an emission limitation or standard has not been met;
  - c. Any other condition in which observations or data collected demonstrates noncompliance with an emission limitation or standard or any work practice or operating condition required by the permit.

2. Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions as defined in the permit, the probable cause of such deviations, and any corrective actions or preventive measures taken. Prompt reporting shall mean that the report was submitted to the Director by certified mail, facsimile, or hand delivery within two working days of the time when the Permittee first learned of the occurrence of the deviations.
3. All instances of deviations from permit requirements shall be clearly identified in the required semiannual monitoring report specified in Attachment "B", Section III.N, and shall be certified by the responsible official. [A.A.C. R18-2-306.A.5.a]

#### C. EMERGENCY PROVISION

[A.A.C. R18-2-306.E]

1. An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.
2. An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the conditions of Paragraph 3 of this section are met.
3. The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:
  - (1) An emergency occurred and that the Permittee can identify the cause(s) of the emergency;
  - (2) The permitted facility was at the time being properly operated;
  - (3) During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
  - (4) The Permittee shall submit notice of the emergency to the Director by certified mail, facsimile or hand delivery within 2 working days of the time when emission limitations were exceeded due to an emergency. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.
4. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

5. This provision is in addition to any emergency or upset provision contained in any applicable requirement.
- D. For any excess emission or permit deviation that cannot be corrected within 72 hours, the Permittee is required to submit a compliance schedule to the Director within 21 days of such occurrence. The compliance schedule shall include a schedule of remedial measures, including an enforceable sequence of actions with milestones, leading to compliance with the permit terms or conditions that have been violated. [A.R.S. 49-4256(I)(5)]

## **XII. RECORD KEEPING REQUIREMENTS**

[A.A.C. R18-2-306.A.4]

- A. Permittee shall keep records of all required monitoring information including, but not limited to, the following:
  1. The date, place as defined in the permit, and time of sampling or measurements;
  2. The date(s) analyses were performed;
  3. The name of the company or entity that performed the analyses;
  4. A description of the analytical techniques or methods used;
  5. The results of such analyses; and
  6. The operating conditions as existing at the time of sampling or measurement.
- B. Permittee shall retain records of all required monitoring data and support information for a period of at least 5 years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings or other data recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

## **XIII. REPORTING REQUIREMENTS**

[A.A.C. R18-2-306.A.5]

Permittee shall submit the following reports :

- A. Compliance certifications in accordance with Section VII of Attachment "A".
- B. Excess emissions, permit deviations, and emergency reports in accordance with Section XI of Attachment "A".
- C. Other reports required by Section III of Attachment "B".



#### **XIV. DUTY TO PROVIDE INFORMATION**

[A.A.C. R18-2-304.G and 306.A.8.e]

- A. The Permittee shall furnish to the Director, within a reasonable time, any information that the Director may request in writing to determine whether cause exists for revising, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the Permittee shall also furnish to the Director copies of records required to be kept by the permit. For information claimed to be confidential, the Permittee shall furnish an additional copy of such records directly to the Administrator along with a claim of confidentiality.
- B. If the Permittee has failed to submit any relevant facts or if the Permittee has submitted incorrect information in the permit application, the Permittee shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information.

#### **XV. PERMIT AMENDMENT OR REVISION**

[A.A.C. R18-2-318, 319 and 320]

Permittee shall apply for a permit amendment or revision for changes to the facility which do not qualify for a facility change without revision under Section XVI, as follows:

- A. Administrative Permit Amendment (A.A.C. R18-2-318);
- B. Minor Permit Revision (A.A.C. R18-2-319);
- C. Significant Permit Revision (A.A.C. R18-2-320).

The applicability and requirements for such action are defined in the above referenced regulations.

#### **XVI. FACILITY CHANGE WITHOUT PERMIT REVISION**

[A.A.C. R18-2-317]

- A. Permittee may make changes at the permitted source without a permit revision if all of the following apply:
  - 1. The changes are not modifications under any provision of Title I of the Act or under A.R.S. § 49-401.01(17).
  - 2. The changes do not exceed the emissions allowable under the permit whether expressed therein as a rate of emissions or in terms of total emissions.
  - 3. The changes do not violate any applicable requirements or trigger any additional applicable requirements.

4. The changes satisfy all requirements for a minor permit revision under R18-2-319(A).
  5. The changes do not contravene federally enforceable permit terms and conditions that are monitoring (including test methods), recordkeeping, reporting, or compliance certification requirements.
- B. The substitution of an item of process or pollution control equipment for an identical or substantially similar item of process or pollution control equipment shall qualify as a change that does not require a permit revision, if it meets all of the requirements of subsections (A) and (C) of this Section.
- C. For each such change under subsections A and B of this Section, a written notice by certified mail or hand delivery shall be received by the Director and, for Class I permits, the Administrator, a minimum of 7 working days in advance of the change. Notifications of changes associated with emergency conditions, such as malfunctions necessitating the replacement of equipment, may be provided less than 7 working days in advance of the change but must be provided as far in advance of the change as possible or, if advance notification is not practicable, as soon after the change as possible. Each notification shall include:
1. When the proposed change will occur.
  2. A description of each such change.
  3. Any change in emissions of regulated air pollutants.
  4. The pollutants emitted subject to the emissions trade, if any.
  5. The provisions in the implementation plan that provide for the emissions trade with which the source will comply and any other information as may be required by the provisions in the implementation plan authorizing the trade.
  6. If the emissions trading provisions of the implementation plan are invoked, then the permit requirements with which the source will comply.
  7. Any permit term or condition that is no longer applicable as a result of the change.

## **XVII. PERFORMANCE TESTING REQUIREMENTS**

[A.A.C. R18-2-312]

### **A. Operational Conditions During Testing**

Performance tests shall be conducted during operation at the full load of each unit under representative operational conditions unless other conditions are required by the applicable test

method or in this permit. With prior written approval from the Director, testing may be performed at a lower rate. Operations during start-up, shutdown, and malfunction (as defined in A.A.C. R18-2-101) shall not constitute representative operational conditions unless otherwise specified in the applicable standard.

**B. Performance Test Plan**

At least 14 calendar days prior to performing a test required by this permit, the owner or operator shall submit a test plan to the Director, in accordance with the Arizona Testing Manual. This test plan must include the following:

1. test duration;
2. test location(s);
3. test method(s); and
4. source operation and other parameters that may affect test results.

**C. Stack Sampling Facilities**

Permittee shall provide or cause to be provided, performance testing facilities as follows:

1. Sampling ports adequate for test methods applicable to the facility;
2. Safe sampling platforms;
3. Safe access to sampling platforms; and
4. Utilities for sampling and testing equipment.

**D. Interpretation of Final Results**

Each performance test shall consist of three separate runs using the required test method. Each run shall be conducted in accordance with the applicable standard and test method. For the purpose of determining compliance with an applicable standard, the arithmetic means of results of the three runs shall apply. If a sample is accidentally lost or conditions occur which are not under the Permittee's control and which may invalidate the run, compliance may, upon the Director's approval, be determined using the arithmetic mean of the other two runs. If the Director or the Director's designee is not present, tests may only be stopped for good cause. Good cause includes, forced shutdown, failure of an irreplaceable portion of the sample train, extreme meteorological conditions or other conditions beyond the Permittee's control. Termination of any test without good cause after the first run is commenced shall constitute a failure of the test. Supporting documentation which demonstrates good cause must be submitted.

**E. Report of Final Test Results**

A written report of the results of all performance tests shall be submitted to the Director within 30 days after the test is performed. The report shall be submitted in accordance with the Arizona Testing Manual and A.A.C. R18-2-312.A.

## **XVIII. PROPERTY RIGHTS**

[A.A.C. R18-2-306.A.8.d]

This permit does not convey any property rights of any sort, or any exclusive privilege.

## **XIX. SEVERABILITY CLAUSE**

[A.A.C. R18-2-306.A.7]

The provisions of this permit are severable. In the event of a challenge to any portion of this permit, or if any portion of this permit is held invalid, the remaining permit conditions remain valid and in force.

## **XX. PERMIT SHIELD**

[A.A.C. R18-2-325]

Compliance with the conditions of this permit shall be deemed compliance with the applicable requirements identified in Attachment "C" of this permit. The permit shield shall not apply to any changes made pursuant to Section XV.B of this Attachment and Section XVI of this Attachment.

## **XXI. ACID RAIN**

- A. When provisions or requirements of the regulations incorporated pursuant to A.A.C. R18-2-333.A (Acid Rain) conflict with any of the applicable requirements, the regulations incorporated by A.A.C. R18-2-333.A (Acid Rain) shall apply and take precedence.

[A.A.C. R18-2-333]

- B. No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid rain program, provided that such increases do not require a permit revision under any other applicable requirement.

[A.A.C. R18-2-306.A.6.a]

- C. No limit shall be placed on the number of allowances held by the source. The source may not, however, use allowances as a defense to noncompliance with any other applicable requirement.

[A.A.C. R18-2-306.A.6.b]

- D. Any such allowance shall be accounted for according to the procedures established in regulations promulgated under Title IV of the Act.

[A.A.C. R18-2-306.A.6.c]

- E. All of the following are prohibited:

1. Annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide held by the owners or the operators of the unit or the designated representative of the owners or the operators as of the applicable allowance transfer deadline;
2. Exceedances of applicable emission rates;
3. The use of any allowance prior to the year for which it was allocated; and
4. Contravention of any other provision of the permit.

[A.A.C. R18-2-306.A.6.d]

## **XXII. ACCIDENTAL RELEASE PROGRAM**

If this source becomes subject to the provisions of 40 CFR Part 68, then the Permittee shall comply with these provisions according to the timeline specified in 40 CFR Part 68.

[40 CFR 68]

## ATTACHMENT "B": SPECIFIC CONDITIONS

### Air Quality Control Permit No. 1000102 For *Tucson Electric Power - Irvington Generating Station*

*{Reading Note: In this Attachment there are many instances where requirements in different parts have to be cross-referenced. To streamline the cross-referencing procedure, and reduce ambiguity, the following naming convention has been adopted - Level 1 : Section ; Level 2: Part; Level 3:Paragraph; Level 4:Sub-Paragraph; Level 5: Condition. For example, the Emission Standards for all units would be found in Section 1. The Emission Standards for Unit I1 would be found in Part I.A. The Sulfur Dioxide Standard for Unit I1 would be found in Paragraph I.A.3. The Sulfur Dioxide Standard for Unit I1 while burning Liquid Fuel in Unit I1 would be found in Sub-Paragraph I.A.3.a}*

#### I. EMISSION LIMITS/STANDARDS

##### A. Unit I1 (Unit 1 Boiler); Unit I2 (Unit 2 Boiler); Unit I3 (Unit 3 Boiler)

###### 1. *Visible Emissions Standard*

Permittee shall not cause, allow or permit to be emitted into the atmosphere any plume or effluent the opacity of which exceeds 40 percent, measured in accordance with EPA Reference Method 9. [A.A.C.R18-2-702.B]

###### 2. *Particulate Matter Standard*

Permittee shall not cause, allow or permit the emission of particulate matter in excess of the amounts calculated by the following equation:

$$E = 1.02 Q^{0.769}$$

E = the maximum allowable particulate matter emissions rate in pounds -mass per hour  
Q = the heat input in million Btu per hour

[A.A.C. R18-2-703.C.1]

###### 3. *Sulfur Dioxide Standard*

###### a. LIQUID FUEL

Permittee shall not cause, allow, or permit emission of more than 1.0 pound sulfur dioxide maximum three hour average per million BTU heat input.

[A.A.C.R18-2-703.E.1]

###### 4. *Fuel Limitation*

a. Permittee shall not use high sulfur oil (fuel sulfur content  $\geq$  0.90% by weight) as a fuel

unless the Permittee demonstrates to the satisfaction of the Director that sufficient quantities of low sulfur oil are not available for use by the source and that it has adequate facilities and contingency plans to insure that the sulfur dioxide ambient air quality standards set forth in A.A.C. R18-2-202 will not be violated.

[A.A.C.R18-2-703.H]

b. Permittee shall burn only the following as fuel:

[A.A.C. R18-2-306.A.2]

- (1) Natural gas;
- (2) Fuel Oil #2 through #6 or equivalent;
- (3) Co-firing Natural gas with Fuel Oils #2 through #6 or equivalent;
- (4) For Units I1 and I2 only : Co-firing any of the fuels listed in (1) through (3) with Landfill Gas

#### 5. *Definition of Heat Input*

For the purposes of Paragraphs I.A.2 and I.A.3 of this Attachment, “heat input” is defined as the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet. The heat content of solid fuel shall be determined in accordance with A.A.C. R18-2-311. Compliance tests shall be conducted during operation at the nominal rated capacity of the unit.

[A.A.C.R18-2-703.B]

The total heat input from the burning of all fuels in each unit shall be computed as follows:

$$TotalHeatInput = \sum_{i=1}^k (NHV_i) x (U_i)$$

Where:

NHV<sub>i</sub> = Net heating value of each fuel “i” at standard temperature and pressure; and

U<sub>i</sub> = Fuel firing rate of each fuel “i”.

[A.A.C. R18-2-306.A.2]

### B. Unit I4 (Unit 4 Boiler)

#### 1. *Visible Emissions Standard*

Permittee shall not cause, allow or permit to be emitted into the atmosphere any plume or effluent the opacity of which exceeds 20 percent, measured in accordance with EPA Reference Method 9.

[Installation Permit #1156, Condition 5]

#### 2. *Particulate Matter Standard*

Permittee shall not cause, allow or permit the emission of particulate matter in excess of the amounts calculated by the following equation:

$$E = 1.02 Q^{0.769}$$

E = the maximum allowable particulate matter emissions rate in pounds -mass per hour

Q = the heat input in million Btu per hour

[A.A.C. R18-2-703.C.1]

### 3. *Sulfur Dioxide Standard*

#### a. GASEOUS FUEL

Permittee shall not cause, allow, or permit emission of more than 1.0 pound sulfur dioxide maximum three hour average per million BTU heat input.

[Installation Permit #1156, Condition 5]

#### b. LIQUID FUEL

Permittee shall not cause, allow, or permit emission of more than 1.0 pound sulfur dioxide maximum three hour average per million BTU heat input.

[Installation Permit #1156, Condition 5]

#### c. COAL

(1) Permittee shall not cause, allow, or permit emission of more than 1.0 pound sulfur dioxide maximum three hour average per million BTU heat input.

[Installation Permit #1156, Condition 5]

(2) The maximum sulfur content of the coal shall be equal to or less than 0.50 percent by weight at 10,000 BTU/lb.

[Installation Permit #1156, Condition 4]

### 4. *Nitrogen Oxides*

#### a. GASEOUS FUEL

Permittee shall not cause, allow, or permit emission of more than 0.7 pounds of nitrogen oxides maximum three hour average, calculated as nitrogen dioxide, per million BTU heat input.

[Installation Permit #1156, Condition 5]

#### b. LIQUID FUEL

Permittee shall not cause, allow, or permit emission of more than 0.7 pounds of nitrogen oxides maximum three hour average, calculated as nitrogen dioxide, per million BTU heat input.

[Installation Permit #1156, Condition 5]



c. COAL

Permittee shall not cause, allow, or permit emission of more than 0.7 pounds of nitrogen oxides maximum three hour average, calculated as nitrogen dioxide, per million BTU heat input.

[Installation Permit #1156, Condition 5]

5. *Fuel Limitation*

- a. Permittee shall not use high sulfur oil (fuel sulfur content  $\geq 0.90\%$  by weight) as a fuel unless the Permittee demonstrates to the satisfaction of the Director that sufficient quantities of low sulfur oil are nor available for use by the source and that it has adequate facilities and contingency plans to insure that the sulfur dioxide ambient air quality standards set forth in A.A.C. R18-2-202 will not be violated.

[A.A.C.R18-2-703.H]

- b. Permittee shall burn only the following as fuel:

[A.A.C. R18-2-306.A.2]

- (1) Coal;
- (2) Fuel Oil #2 through #6;
- (3) Natural Gas;
- (4) Co-Firing Natural Gas with fuels listed in (1) and (2); or
- (5) Co-firing Landfill Gas with fuels listed in (1) through (4).
- (6) Except for short-term fuel switching (three hours or less), fuels shall **not** be fired simultaneously unless the continuous monitoring systems are operating.

[Installation Permit #1156, Condition 12]

6. *Definition of Heat Input*

For the purposes of Paragraphs I.B.2, I.B.3, and I.B.4 of this Attachment, “heat input” is defined as the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet. The heat content of solid fuel shall be determined in accordance with A.A.C. R18-2-311. Compliance tests shall be conducted during operation at the nominal rated capacity of the unit.

[A.A.C.R18-2-703.B]

The total heat input from the burning of all fuels in Unit I4 shall be computed as follows:

$$TotalHeatInput = \sum_{i=1}^k (NHV_i) x (U_i)$$

Where:

$NHV_i$  = Net heating value of each fuel “i” at standard temperature and pressure; and

$U_i$  = Fuel firing rate of each fuel “i”.

[A.A.C. R18-2-306.A.2]

**C. Unit IGT1 (Unit 1 Gas Turbine); Unit IGT2 (Unit 2 Gas Turbine); Unit IGT3 (Unit 3 Gas Turbine)**

**1. *Visible Emissions Standard***

Permittee shall not cause, allow or permit to be emitted into the atmosphere from any stationary rotating machinery, smoke for any period of time greater than ten consecutive seconds which exceeds 40 percent opacity. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes.

[A.A.C. R18-2-719.E]

**2. *Particulate Matter Standard***

Permittee shall not cause, allow, or permit the emission of particulate matter, caused by combustion of fuel, from any of the stacks of stationary rotating machinery in excess of the amounts calculated by the following equation:

$$E = 1.02 Q^{0.769} \text{ where:}$$

E= the maximum allowable particulate emissions rate in pounds-mass per hour.

Q= the heat input in million Btu per hour.

[A.A.C. R18-2-719.C]

**3. *Sulfur Dioxide Standard***

**a. LIQUID FUEL**

Permittee shall not cause, allow, or permit emissions of more than 1.0 pounds of sulfur dioxide per million Btu heat input.

[A.A.C. R18-2-719.F]

**4. *Fuel Limitation***

- a. Permittee shall not use high sulfur oil (fuel sulfur content  $\geq 0.90\%$  by weight) as a fuel unless the Permittee demonstrates to the satisfaction of the Director that sufficient quantities of low sulfur oil are nor available for use by the source and that it has adequate facilities and contingency plans to insure that the sulfur dioxide ambient air quality standards set forth in A.A.C. R18-2-202 will not be violated.

[A.A.C. R18-2-719.H]

- b. Permittee shall burn only the following as fuel in the following units:

- (1) Natural gas;
- (2) Fuel oil : #2 Distillate
- (3) Co-firing Natural gas with Fuel oil #2 Distillate

5. *Definition of Heat Input*

For the purposes of Paragraphs I.C.2 and I.C.3 of this Attachment, “heat input” is defined as the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet. Compliance tests shall be conducted during operation at the nominal rated capacity of each unit.

[A.A.C. R18-2-719.B]

The total heat input from the burning of all fuels shall be computed as follows:

$$TotalHeat\ Input = \sum_{j=1}^n \sum_{i=1}^k (NHV_{i,j}) x (U_{i,j})$$

Where:

$NHV_i$  = Net heating value of each fuel “i” at standard temperature and pressure fired in each unit “j”; and

$U_i$  = Fuel firing rate of each fuel “i” in each unit “j”.

[A.A.C. R18-2-306.A.2]

**D. Unit IAUX (Auxiliary Boiler)**

1. *Visible Emissions Standard*

Permittee shall not cause, allow or permit to be emitted into the atmosphere, smoke which exceeds 15 percent opacity.

[A.A.C. R18-2-724.J]

2. *Particulate Matter Standard*

[A.A.C. R18-2-724.C.1]

Permittee shall not cause, allow or permit the emission of particulate matter, caused by combustion of fuel in excess of the amount calculated by the following equation:

$$E = 1.02 Q^{0.769} \text{ where:}$$

E = the maximum allowable particulate emissions rate in pounds-mass per hour.

Q = the heat input in million Btu per hour.

3. *Sulfur Dioxide Standard*

a. LIQUID FUEL

Permittee shall not cause, allow, or permit emission of more than 1.0 pounds of sulfur

dioxide per million Btu heat input.

[A.A.C. R18-2-724.E]

4. *Fuel Limitation*

- a. Permittee shall not use high sulfur oil (fuel sulfur content  $\geq 0.90\%$  by weight) as a fuel unless the Permittee demonstrates to the satisfaction of the Director that sufficient quantities of low sulfur oil are nor available for use by the source and that it has adequate facilities and contingency plans to insure that the sulfur dioxide ambient air quality standards set forth in A.A.C. R18-2-202 will not be violated.

[A.A.C. R18-2-724.G]

- b. Permittee shall burn only the following as fuel:

- (1) Natural gas;
- (2) Fuel oil : #2 Distillate
- (3) Co-firing Natural gas with Fuel oil #2 Distillate

[A.A.C. R18-2-306.A.2]

5. *Definition of Heat Input*

For the purposes of Paragraphs I.D.2 and I.D.3 of this Attachment, “heat input” is defined as the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet. The heat content of solid fuel shall be determined in accordance with A.A.C. R18-2-311. Compliance tests shall be conducted during operation at the nominal rated capacity of each unit.

[A.A.C. R18-2-724.B]

The total heat input from the burning of all fuels shall be computed as follows:

$$TotalHeatInput = \sum_{i=1}^k (NHV_i) x (U_i)$$

Where:

$NHV_i$  = Net heating value of each fuel “i” at standard temperature and pressure fired; and

$U_i$  = Firing rate of each fuel “i”.

[A.A.C. R18-2-306.A.2]

**E. Unit I1E (Unit 1 Cooling Tower); Unit I2D (Unit 2 Cooling Tower); Unit I3D (Unit 3 Cooling Tower); Unit I4E (Unit 4 Cooling Tower)**

1. *Visible Emissions Standard*

Permittee shall not cause, allow or permit to be emitted into the atmosphere any plume or effluent the opacity of which exceeds 40 percent, measured in accordance with EPA

2. *Particulate Matter Standard*

Permittee shall not cause, allow or permit the emission of particulate matter in excess of the amounts calculated by the following equation:

$$E = 55P^{0.11} - 40.0$$

where:

E=the maximum allowable particulate emissions rate in pounds-mass per hour; and

P=the process weight rate in tons-mass per hour. [A.A.C. R18-2-730.A.1]

3. Permittee shall not emit gaseous or odorous materials from equipment, operations, or premises in such quantities or concentrations to cause air pollution.

[A.A.C. R18-2-730.D]

4. Where a stack, vent, or other outlet is at such a level that fumes, gas mist, odor, smoke, vapor or any combination thereof constituting air pollution is discharged to adjoining property, the Director may require the installation of abatement equipment or the alteration of such stack, vent, or other outlet by the Permittee thereof to a degree that will adequately dilute, reduce, or eliminate the discharge of air pollution to adjoining property.

[A.A.C. R18-2-730.G]

**F. Unit IGT1A (Gas Turbine 1 Diesel Starter Engine); Unit IGT2A (Gas Turbine 2 Diesel Starter Engine); Unit IGT3A (Gas Turbine 3 Diesel Starter Engine)**

1. *Visible Emissions Standard*

Permittee shall not cause, allow or permit to be emitted into the atmosphere from any stationary rotating machinery, smoke for any period of time greater than ten consecutive seconds which exceeds 40 percent opacity. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes.

[A.A.C. R18-2-719.E]

2. *Particulate Matter Standard*

Permittee shall not cause, allow, or permit the emission of particulate matter, caused by combustion of fuel, from any of the stacks of stationary rotating machinery in excess of the amounts calculated by the following equation:

$$E = 1.02 Q^{0.769} \text{ where:}$$

E=the maximum allowable particulate emissions rate in pounds-mass per hour.

Q=the heat input in million Btu per hour. [A.A.C. R18-2-719.C]

3. *Sulfur Dioxide Standard*

Permittee shall not cause, allow, or permit emissions of more than 1.0 pounds of sulfur dioxide per million Btu heat input. [A.A.C. R18-2-719.F]

4. *Fuel Limitation*

a. Permittee shall not use high sulfur oil (fuel sulfur content  $\geq 0.90\%$  by weight) as a fuel unless the Permittee demonstrates to the satisfaction of the Director that sufficient quantities of low sulfur oil are not available for use by the source and that it has adequate facilities and contingency plans to insure that the sulfur dioxide ambient air quality standards set forth in A.A.C. R18-2-202 will not be violated.

[A.A.C. R18-2-719.H]

b. Permittee shall burn only Diesel as fuel.

[A.A.C. R18-2-306.A.2]

5. *Definition of Heat Input*

For the purposes of Paragraphs I.F.2 and I.F.3 of this Attachment, “heat input” is defined as the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet. Compliance tests shall be conducted during operation at the nominal rated capacity of each unit.

[A.A.C. R18-2-719.B]

The total heat input from the burning of all fuels shall be computed as follows:

$$TotalHeatInput = \sum_{j=1}^n \sum_{i=1}^k (NHV_{i,j}) x (U_{i,j})$$

Where:

$NHV_i$  = Net heating value of each fuel “i” at standard temperature and pressure fired in each unit “j”; and

$U_i$  = Fuel firing rate of each fuel “i” in each unit “j”.

[A.A.C. R18-2-306.A.2]

**G. Coal Handling System (Rotary Car Dumper Enclosure, As Received Sampler Enclosure, Live Coal Storage Enclosure, Crusher Tower Enclosure, Tower 4 Enclosure, Conveyors: C2, C4, C5, C6, C7A, C7B)**

1. *Visible Emissions Standard*

Permittee shall not cause, allow or permit to be emitted any emissions from the coal

preparation plant into the atmosphere in excess of 40 % opacity as measured by EPA Reference Method 9.

[A.A.C.R18-2-702(B)]

2. *Particulate Matter Standard*

- a. Permittee shall not cause, allow or permit the discharge of particulate matter into the atmosphere in any one hour from any existing coal preparation plant in total quantities in excess of the amounts calculated by the following equation:

$$E = 17.31P^{0.16}$$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.

P = the process weight rate in tons-mass per hour

[Arizona SIP R-3-516(A)(2)(b)]

- b. The total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.

[A.A.C. R18-2-716.D]

**H. Fly Ash Handling (*Flyash Silo A, Flyash Silo B, Flyash Storage Tank #4*)**

1. *Visible Emissions Standard*

Permittee shall not cause, allow or permit to be emitted any emissions into the atmosphere from the fly ash handling operation in excess of 40% opacity as measured by EPA Reference Method 9.

[A.A.C. R18-2-702(B)]

2. *Particulate Matter Standard*

- a. Permittee shall not cause, allow or permit the discharge of particulate matter into the atmosphere in any one hour from any fly ash handling operation in total quantities in excess of the amounts calculated by the following equations:

- (1) For process sources with a process weight rate less than 30 tons per hour :

$$E = 4.10P^{0.67}$$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.

P = the process weight rate in tons-mass per hour.

- (2) For process sources with a process weight rate greater than 30 tons per hour :

$$E = 55.0P^{0.11} - 40$$

Where:

E = the maximum allowable particulate emissions rate in pounds-mass per hour.

P = the process weight rate in tons-mass per hour.

[A.A.C. R18-2-730.A.1]

- b. The total process weight from all similar units employing a similar type process shall be used in determining the maximum allowable emission of particulate matter.

[A.A.C. R18-2-730(B)]

- I. Unit I1B (Turbine 1 Lube Oil Vapor Extractor); Unit I1C (Generator 1 Bearing Drain Vapor Extractor); Unit I1D (Generator 1 Bearing Drain Vacuum Pump); Unit I2B (Turbine 2 Lube Oil Vapor Extractor); Unit I2C (Generator 2 Bearing Drain Vapor Extractor); Unit I3B (Turbine 3 Lube Oil Vapor Extractor, Clarage Fan Co.); Unit I3C (Generator 3 Bearing Drain Vapor Extractor); Unit I4B (Turbine 4 Lube Oil Vapor Extractor); Unit I4C (Generator 4 Bearing Drain Vapor Extractor); Unit I4D (Generator 4 Bearing Drain Vacuum Pump); IGT1B (Gas Turbine 1 Lube Oil Vapor Extractor); IGT2B (Gas Turbine 2 Lube Oil Vapor Extractor); IGT3B (Gas Turbine 3 Lube Oil Vapor Extractor)**

Permittee shall not emit gaseous or odorous materials from equipment, operations or premises under his control in such quantities or concentrations as to cause air pollution.

[A.A.C. R18-2-730(D)]

**J. Emergency Coal Storage Pile**

1. The emergency coal storage pile is exempt from the requirements listed in Part K of Section I of this Attachment.
2. Permittee shall not cause, suffer, allow or permit organic or inorganic producing dust material to be stacked, piled, or otherwise stored without taking reasonable precautions such as chemical stabilization, wetting or covering to prevent excessive amounts of particulate matter from becoming airborne.  
[A.A.C.R18-2-607.A]
3. Stacking and reclaiming machinery utilized at storage piles shall be operated at all times with a minimum fall of material and in such manner, or with the use of spray bars and wetting agents, as to prevent excessive amounts of particulate matter from becoming airborne.  
[A.A.C.R18-2-607.B]
4. *Visible Emissions Standard*

Opacity of an emission from any nonpoint source shall not be greater than 40 percent.

[A.A.C.R18-2-610]

**K. Open Areas, Roadways & Streets, Storage Piles, and Material Handling**



1. *Visible Emissions*

- a. Permittee shall not cause, allow or permit visible emissions from open areas, roadways and streets, storage piles or material handling in excess of 40 % .

[A.A.C.R18-2-610]

- b. Permittee shall not cause or permit the airborne diffusion of visible emissions, including fugitive dust, beyond the property boundary line within which the emissions become airborne. In actual practice, the airborne diffusion of visible emissions across property lines shall be prevented by appropriately controlling the emissions at the point of discharge, or ceasing entirely the activity or operation which is causing or contributing to the emissions. This condition shall not apply when wind speeds exceed twenty-five miles per hour (as estimated by an enforcement officer using the Beaufort Scale of Wind-Speed Equivalents, or as recorded by the National Weather Service). This exception does not apply if control measures have not been taken or were not commensurate with the size or scope of the emission source.

[Pima County SIP Rule 343]

2. Permittee shall employ one or more of the following reasonable precautions to prevent excessive amounts of particulate matter from becoming airborne:

- a. Use approved dust suppressants, adhesive soil stabilizer, paving, covering, detouring, or wetting agents on, or bar access to open areas during construction operations, repair operations, demolition activities, clearing operations, and leveling operations, or when any earth is moved or excavated;

[A.A.C.R18-2-604.A]

- b. Use approved dust suppressants, adhesive soil stabilizer, or paving on, or bar access to driveways, parking areas, and vacant lots where motor vehicular activity occurs;

[A.A.C.R18-2-604.B]

- c. Use approved dust suppressants, temporary paving, detouring or wetting agents when a roadway is repaired, constructed, or reconstructed;

[A.A.C.R18-2-605.A]

- d. Use dust suppressants, spray bars, hoods, wetting agents, or cover the load adequately when transporting material likely to give rise to airborne dust;

[A.A.C.R18-2-605.B and 606]

- e. Use spray bars, hoods, wetting agents, dust suppressants, or cover when crushing, handling, or conveying material that is likely to give rise to airborne dust;

[A.A.C.R18-2-606]

- f. Adequately cover, or use wetting agents, chemical stabilization, or dust suppressants when stacking, piling, or otherwise storing organic or inorganic dust producing material;

[A.A.C.R18-2-607.A]

- g. Operate stacking and reclaiming machinery utilized at storage piles at all times with a minimum fall of material and with the use of spray bars and wetting agents;

[A.A.C.R18-2-607.B]

h. Use wetting agents or dust suppressants before the cleaning of site, roadway, or alley. Earth or other material shall be removed from paved streets onto which earth or other material has been transported by trucking or earth moving equipment, erosion by water or by other means; or [A.A.C.R18-2-804.B]

i. Any other method as proposed by the Permittee and approved by the Director.

3. Permittee is prohibited from surfacing roadways with asbestos tailings.

[Pima County SIP Rule 315(F)]

#### **L. Other Non-Point Sources**

##### **1. OPEN BURNING**

Except as provided in A.A.C. R18-2-602.C(1), C(3), and C(4), and except when permitted to do so by either ADEQ or the local officer delegated the authority for issuance of open burning permits the Permittee shall not conduct open burning.

[A.A.C.R18-2-602]

##### **2. ABRASIVE BLASTING**

a. The Permittee shall not cause or allow sandblasting or other abrasive blasting without minimizing dust emissions to the atmosphere through the use of good modern practices. Good modern practices include:

- (1) wet blasting;
- (2) effective enclosures with necessary dust collecting equipment; or
- (3) Any other method as approved by the Director.

[A.A.C. R18-2-726]

b. Permittee shall not cause, allow or permit visible emissions from sandblasting or other abrasive blasting operations in excess of 40% opacity as measured by EPA Reference Method 9.

[A.A.C. R18-2-702.B]

##### **3. USE OF PAINTS**

While performing spray painting operations the Permittee shall comply with the following requirements:

a. The Permittee shall not conduct any spray painting operation without minimizing organic solvent emissions. Such operations other than architectural coating and spot painting, shall be conducted in an enclosed area equipped with controls containing no less than 96 percent of the overspray.

[A.A.C.R18-2-727.A]

b. The Permittee shall not either:

- (1) Employ, apply, evaporate or dry any architectural coating containing photochemically reactive solvents for industrial or commercial purposes; or
- (2) Thin or dilute any architectural coating with a photochemically reactive solvent.

[A.A.C.R18-2-727.B]

- c. For the purposes of parts b. and e. of this condition, a photochemically reactive solvent shall be any solvent with an aggregate of more than 20 percent of its total volume composed of the chemical compounds classified in paragraphs (1) through (3) of this subsection, or which exceeds any of the following percentage composition limitations, referred to the total volume of solvent:

- (1) A combination of the following types of compounds having an olefinic or cyclo-olefinic type of unsaturation - hydrocarbons, alcohols, aldehydes, esters, ethers, or ketones : five percent
- (2) A combination of aromatic compounds with eight or more carbon atoms to the molecule except ethylbenzene: eight percent
- (3) A combination of ethylbenzene, ketones having branched hydrocarbon structures, trichloroethylene or toluene: 20 percent

[A.A.C.R18-2-727.C]

- d. Whenever any organic solvent or any constituent of an organic solvent may be classified from its chemical structure into more than one of the groups or organic compounds described in subsection c(1) through c(3) of this condition, it shall be considered to be a member of the group having the least allowable percent of the total volume of solvents.

[A.A.C.R18-2-727.D]

- e. The Permittee shall not dispose by evaporation more than 1.5 gallons of photochemically reactive solvent in any one day.

[SIP Provision R9-3-527.C]

- f. Visible emissions from spray painting operations shall not have an opacity greater than 40%, measured in accordance with by EPA Reference Method 9.

[A.A.C.R18-2-702.B]

#### 4. MOBILE SOURCES

##### a. Classification

The requirements of this condition are applicable to mobile sources which either move while emitting air contaminants or are frequently moved during the course of their utilization but are not classified as motor vehicles, agricultural vehicles, or are agricultural equipment used in normal farm operations. Mobile sources shall not include portable sources as defined in A.A.C. R18-2-101.84.

[A.A.C.R18-2-801]

##### b. Off-Road Machinery

The Permittee shall not cause, allow, or permit to be emitted into the atmosphere from any

off-road machinery, smoke for any period greater than ten consecutive seconds, the opacity of which exceeds 40 percent. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes. Off-road machinery shall include trucks, graders, scrapers, rollers, and other construction and mining machinery not normally driven on a completed public roadway. [A.A.C.R18-2-802]

c. Roadway and Site Cleaning Machinery

The Permittee shall not cause, allow or permit to be emitted into the atmosphere from any roadway and site cleaning machinery smoke or dust for any period greater than ten consecutive seconds, the opacity of which exceeds 40 percent. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes.

[A.A.C.R18-2-804.A]

5. DEMOLITION/RENOVATION

The Permittee shall comply with all applicable requirements of 40CFR 61, Subpart M (National Emissions Standards for Hazardous Air Pollutants - Asbestos).

[A.A.C.R18-2-1101.A.8]

6. NONVEHICLE AIR CONDITIONER MAINTENANCE AND/OR SERVICES

The Permittee shall comply with all of the requirements of 40CFR 82, Subpart F (Protection of Stratospheric Ozone - Recycling and Emissions Reduction).

[40 CFR 82, Subpart F]

**M. Hot Water and Space Heaters**

1. *Visible Emissions Standard*

Permittee shall not cause, allow or permit to be emitted into the atmosphere from the Hot Water Heater or Space Heaters smoke which exceeds 15 percent opacity.

[A.A.C. R18-2-724.J]

2. *Particulate Matter Standard*

Permittee shall not cause, allow or permit the emission of particulate matter, caused by combustion of fuel, from the Hot Water Heater or Space Heaters in excess of the amount calculated by the following equation:

$$E = 1.02 Q^{0.769} \text{ where:}$$

E = the maximum allowable particulate emissions rate in pounds-mass per hour.

Q = the heat input in million Btu per hour.

[A.A.C. R18-2-724.J]

3. *Sulfur Dioxide Standard*

a. LIQUID FUEL

Permittee shall not cause, allow, or permit emission of more than 1.0 pounds of sulfur dioxide per million Btu heat input. [A.A.C. R18-2-724.E]

4. *Fuel Limitation*

Permittee shall burn only natural gas as fuel in the hot water heaters and the space heaters. [A.A.C. R18-2-306.A.2]

5. *Definition of Heat Input*

For the purposes of Paragraphs I.M.2 and I.M.3 of this Attachment, “heat input” is defined as the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet. [A.A.C. R18-2-724.B]

**N. Allied Signal Microturbine**

1. *Visible Emissions Standard*

Permittee shall not cause, allow, or permit to be emitted into the atmosphere, smoke for any period greater than ten consecutive seconds which exceeds 40 percent opacity. Visible emissions when starting cold equipment shall be exempt from this requirement for the first ten minutes. [A.A.C. R18-2-719.E]

2. *Particulate Matter Standard*

Permittee shall not cause, allow, or permit the emission of particulate matter, caused by combustion of fuel in excess of the amounts calculated by the following equation :

$$E = 1.02 Q^{0.769}$$

where :

E = the maximum allowable particulate emissions rate in pounds mass per hour

Q = the heat input in million Btu per hour [A.A.C. R18-2-719.C.1]

3. *Fuel Limitation*

Permittee shall only use natural gas as fuel. [A.A.C. R18-2-306.A.2]

4. *Definition of Heat Input*

For the purposes of Paragraph I.N.2 of this Attachment, “heat input” is defined as the aggregate heat content of all fuels whose products of combustion pass through a stack or other outlet. Compliance tests shall be conducted during operation at the nominal rated

capacity of each unit.

[A.A.C. R18-2-719.B]

## II. AIR POLLUTION CONTROL

### A. **Unit I4** (*Unit 4 Boiler*)

At all times when Unit I4 is in operation, Permittee shall maintain and operate a **baghouse** to capture particulate emissions resulting from combustion of coal fuel. Air pollution control equipment shall be operated in a manner consistent with good practice for minimizing emissions.

[Underlined portion is a material permit condition (A.A.C. R18-2-331(A)(3)(d,e))]

[Installation Permit #1156, Condition 8]

### B. **Coal Handling System** (*Rotary Car Dumper Enclosure, As Received Sampler Enclosure, Live Coal Storage Enclosure, Crusher Tower Enclosure, Tower 4 Enclosure, Conveyors: C2, C4, C5, C6, C7A, C7B*)

At all times when the equipment is in operation, Permittee shall maintain and operate the following air pollution control equipment in accordance with good practice for minimizing emissions:

1. Rotary Car Dumper : Enclosure, Spray Bars & Dust Collector
2. Live Coal Storage Facility Enclosure & Dust Collector
3. Crusher Facility Enclosure & Dust Collector
4. Tower 4 Enclosure & Dust Collector
5. As Received Sampler Enclosure
6. Emergency Storage Pile Telescopic Chute
7. Weather Covers for Conveyors C2, C4, C5, C6, C7A, C7B

[Underlined portion is a material permit condition (A.A.C. R18-2-331(A)(3)(d,e))]

### C. **Fly Ash Handling** (*Flyash Silo A, Flyash Silo B, Flyash Storage Tank #4*)

1. At all times when the equipment is in operation, Permittee shall operate and maintain the following air pollution control devices in accordance with good practice for minimizing emissions:

- a. Flyash Silo A Dust Collector
- b. Flyash Silo A Vent Dust Collector
- c. Flyash Silo B Dust Collector
- d. Flyash Silo B Vent Dust Collector
- e. Flyash Storage Tank #4 Dust Collector

[Underlined portion is a material permit condition (A.A.C. R18-2-331(A)(3)(d,e))]

2. The loading sleeve on the flyash hopper shall incorporate a cut-off valve. Flyash shall be

wetted prior to any handling in an open area. The fly ash handling area and haul road shall be paved.

[This is a material permit condition (A.A.C. R18-2-331(A)(3)(d,e))]

[Installation Permit #1156, Condition 10]

3. The flyash shall be loaded into enclosed hopper trucks through a closed gravity feed system and the outer sleeve of the dual sleeve system shall seal with the loading port of the truck and it shall be vented back to the hopper baghouse.

[This is a material permit condition (A.A.C. R18-2-331(A)(3)(d,e))]

[Installation Permit #1156, Condition 11]

### III. MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

#### A. Unit I1 (Unit 1 Boiler); Unit I2 (Unit 2 Boiler); Unit I3 (Unit 3 Boiler)

##### 1. *Visible Emissions (Standard in Paragraph I.A.1 of this Attachment)*

###### a. LIQUID FUEL

Permittee shall monitor opacity according to the following schedule:

- (1) If liquid fuel is combusted in the unit continuously for a time period greater than 48 hours but less than 168 hours, at least one opacity reading will be observed at the exit of the unit's stack.
- (2) If liquid fuel is burned in a unit continuously for a time period greater than 168 hours, at least one opacity reading will be observed during each 168 hour period, at the exit of the unit's stack.

All opacity readings will be observed in accordance with EPA Reference Method 9. Permittee shall log in ink or in an electronic format and maintain a record of the opacity readings from above and the number of hours fuel oil is burned continuously.

[A.A.C. R18-2-306.A.3]

##### 2. *Particulate Matter (Standard in Paragraph I.A.2 of this Attachment)*

###### a. LIQUID FUEL

Permittee shall keep on record, along with the fuel firing rate, the contractual agreement with the liquid fuel vendor indicating the following information concerning the liquid fuel being fired:

- (1) The heating value; and
- (2) The ash content

3. *Sulfur Dioxide (Standards in Paragraph I.A.3 of this Attachment)*

a. LIQUID FUEL

Permittee shall keep records of fuel supplier certification including the following information:

- i) the name of the fuel oil supplier;
- ii) the sulfur content of the oil from which the shipment came;
- iii) the heating content of the oil from which the shipment came;
- iv) the density of the fuel oil from which the shipment came; and
- v) the method used to determine the sulfur content of the oil.

Engineering calculations demonstrating compliance with the standard shall be performed each time there is a change in (ii), (iii), or (iv) above. These calculations shall be performed according to the following equation and maintained in a record:

$$\text{SO}_2 \text{ (lb/MMBtu)} = \frac{2.0 \times [(\text{Weight percent of sulfur}/100) \times \text{Density (lb/gal)}]}{[(\text{Heating value (Btu/gal)}) \times (1 \text{ MMBtu}/1,000,000 \text{ Btu})]}$$

[A.A.C. R18-2-306.A.3]

4. *Fuel Limitation*

Except for fuels during startup and/or flame stabilization, Permittee shall log in ink or in an electronic format a record of any change in fuel type including :

- a. Type of fuel change; and
- b. Date and time of fuel change

[A.A.C. R18-2-306.A.3]

5. *Hours of Operation*

Permittee shall keep track of the hours of operation until the performance tests specified in Part IV.A of this Attachment are completed. Permittee shall compute and record rolling twelve month totals of the hours of operation till the performance tests are completed.

[A.A.C. R18-2-306.A.3]

**B. Unit I4 (Unit 4 Boiler)**

1. *Visible Emissions (Standard in Paragraph I.B.1 of this Attachment)*

ALL FUELS

[A.A.C. R18-2-306.A.3]



a. Permittee shall :

- (1) calibrate continuous monitoring systems for measuring the opacity of emissions.

[This is a material permit condition (A.A.C.R18-2-331(A)(3)(c)]

- (2) maintain, and operate continuous monitoring systems for measuring the opacity of emissions. When Permittee is changing fuel to natural gas, the continuous opacity monitor shall be operated during the transition period, and deactivated only after the opacity readings have stabilized at levels associated with normal natural gas combustion.

b. The continuous opacity monitoring system shall meet the following requirements:

- (1) 40 CFR 60, Appendix B, Performance Specification 1, Specification and Test Procedures for Opacity Continuous Emission Monitoring Systems in Stationary Sources

- (a) Apparatus
- (b) Installation Specifications
- (c) Design and Performance Specifications
- (d) Design Specifications Verification Procedure
- (e) Performance Specifications Verification Procedure
- (f) Equations

- (2) The following quality assurance requirements:

- (a) Calibration Checks

Permittee shall record the zero and span drift in accordance with the method prescribed by the manufacturer's recommended zero and span check at least once unless the manufacturer has recommended adjustments at shorter intervals, in which case such recommendations shall be followed [A.A.C. R18-2-313.D.6]

- (b) Zero and Span Drift Adjustments

- i) Permittee shall adjust the zero or span whenever the 24-hour zero drift or 24-hour calibration drift limits of 2% opacity are exceeded.  
[A.A.C. R18-2-313.D.6]

- ii) The system shall allow for the amount of excess zero and span drift measured at the 24-hour interval checks to be recorded and quantified.  
[A.A.C. R18-2-306.A.3.b]

- iii) The optical surfaces exposed to the effluent gases shall be cleaned prior to performing the zero and span drift adjustments except that for systems using automatic zero adjustments.  
[A.A.C. R18-2-306.A.3.b]

- iv) The optical surfaces shall be cleaned when the cumulative automatic zero compensation exceeds 4% opacity.

[40 CFR 60, Appendix B, PS1, 5.1.7]

(c) System Checks

Each analyzer shall include a calibration system for simulating a zero opacity (or no greater than 10%) condition and an upscale opacity condition for the purposes of performing periodic checks of the transmissometer calibration while on an operating stack or duct. This calibration will provide, as a minimum, a system check of the analyzer internal optics and all electronic circuitry including the lamp and photodetector assembly.

[40 CFR 60, Appendix B, PS1, 5.1.6]

(d) Minimum Frequency of Operation

Except during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments, the COMS shall be in continuous operation and shall complete a minimum of one cycle of sampling and analyzing for each successive 15-second period and one cycle of data recording for each successive 6-minute period.

[A.A.C. R18-2-313.E.2]

(e) Data Reduction and Missing Data

[A.A.C. R18-2-306.A.3.b]

- i) Permittee shall reduce all data from the COMS to 6-minute averages. Six-minute opacity averages shall be calculated from 24 or more data points equally spaced over each 6-minute period.
- ii) Data recorded during periods of system breakdowns, repairs, calibration checks, and zero and span adjustments shall not be included in the data averages computed under the previous paragraph. An arithmetic or integrated average of all data may be used.

2. *Particulate Matter (Standard in Paragraph I.B.2 of this Attachment)*

a. COAL AND LIQUID FUEL

- (1) Permittee shall evaluate opacity measurements from the Continuous Opacity Monitoring System (COMS) on a 24-hour rolling average excluding periods of startup, shutdown, and malfunction. If the 24-hour rolling average opacity exceeds 15 percent, Permittee shall initiate investigation of the control equipment within 24 hours for possible corrective action. If corrective action is required, Permittee shall proceed to implement such corrective action as soon as practicable in order to minimize possible exceedances of the opacity and/or particulate standard established in Paragraphs I.B.1 and I.B.2 of this Attachment.

[A.A.C. R18-2-306.A.3]

- (2) A 24-hour rolling average of the opacity above 15% does not in itself constitute a

violation of either the opacity or the particulate standards listed in Part I.B of this Attachment, nor is it implied that an opacity measurement and a particulate emission correlation exists. [A.A.C. R18-2-306.A.3]

- (3) Permittee shall log in ink or electronic format and maintain a record of 24 hr opacity measurements performed in accordance with paragraph (1) above and any corrective actions taken. A record of corrective actions taken shall include recording the date and time the 24-hr average opacity exceeded 15%, and the date and time corrective action, if any, is completed.

[A.A.C. R18-2-306.A.3]

3. *Sulfur Dioxide (Standard in Paragraph I.B.3 of this Attachment) & Nitrogen Oxides (Standard in Paragraph I.B.4 of this Attachment)*

ALL FUELS

[A.A.C. R18-2-306.A.3]

a. Permittee shall:

- (1) calibrate continuous monitoring systems for measuring the sulfur dioxide emissions, nitrogen oxides emissions, and diluent.

[This is a material permit condition (A.A.C.R18-2-331(A)(3)(c))]

- (2) maintain, and operate continuous monitoring systems for measuring the sulfur dioxide emissions, nitrogen oxides emissions, and diluent. When burning natural gas only, Permittee may use the 40 CFR 75 exempted method, utilizing the emission factor of 0.0006 lb/MMBTU to estimate emissions of SO<sub>2</sub> in place of the continuous emission monitor.

b. The continuous emission monitoring systems for SO<sub>x</sub>, NO<sub>x</sub> and diluent shall meet the following requirements:

- (1) 40 CFR Part 75, Appendix A, "Specification and Test Procedures"

- (a) Installation and measurement location
- (b) Equipment specifications
- (c) Performance specifications
- (d) Data acquisition and handling systems
- (e) Calibration gas
- (f) Certifications tests and procedures
- (g) Calculations

- (2) 40 CFR Part 75, Appendix B, "Quality Assurance and Quality Control Procedure"

- (a) Quality control program
- (b) Frequency of testing

c. Permittee shall comply with all the recordkeeping and reporting requirements of 40 CFR Part 75 Subparts F and G respectively.

4. *Fuel Limitation*

Except for fuels during startup and/or flame stabilization, Permittee shall log in ink or in an electronic format a record of any change in fuel type including :

- a. Type of the fuel change; and
- b. Date and time of the fuel change

[A.A.C. R18-2-306.A.3]

5. Coal consumed shall be sampled for moisture, ash, sulfur content, and gross calorific value. A coal analysis shall be performed on each train load and the results of these analyses shall be retained for at least five years following the date of measurement. All sample collection, sample preparation, and analyses performed or caused to be performed shall be conducted according to the most recent ASTM methods. The coal analyses shall be compiled in a report to be submitted to the Office of Air Quality within 30 days of the end of the quarter. Samples and/or analysis provided by the coal supplier may be used to satisfy this condition.

[Installation Permit 1156]

6. *Deviations*

a. Definitions

The following events shall be considered as deviations from the applicable emission standard :

- (1) any consecutive 3-hour period during which the average emission of nitrogen oxides or sulfur dioxide from the Unit I4 stack, as measured by the continuous emissions monitoring systems, exceeds the emissions standards prescribed in Paragraphs I.B.4 and I.B.3 respectively.
- (2) any 6-minute period during which emissions from the Unit I4 stack, as measured by the continuous opacity monitoring system, exceeds 20 percent opacity.

[A.A.C. R18-2-306.A.3]

- b. Permittee shall submit a written report of all deviations defined in Sub-Paragraph III.B.6.a of this Attachment to ADEQ for every 3 month period ending on March 31, June 30, September 30, and December 31. The report shall include the following:

- (1) The magnitude of deviations computed in accordance with AAC R18-2-313, any conversion factor(s) used, and the date and time of commencement and completion of each time period of deviation.
- (2) Specific identification of each period of deviation that occurs during startups, shutdowns, and malfunctions of the boiler. The nature and cause of any malfunction (if known) and the corrective action taken or preventative measures adopted shall also be reported.
- (3) The date and time identifying each period during which the continuous monitoring system(s) were inoperative except for zero and span checks and the nature of the

system repairs or adjustments.

- (4) when no deviations have occurred or the continuous monitoring systems have not been inoperative, repaired, or adjusted, such information shall be stated in the report.

[Installation Permit 1156, A.A.C. R18-2-313]

- c. In addition to the requirements of Sub-Paragraph II.B.6.b above, Permittee shall report all deviations in accordance with Section XI.B of Attachment "A" of this permit.

[A.A.C. R18-2-306.A..5.b]

**C. Unit IGT1 (Unit 1 Gas Turbine); Unit IGT2 (Unit 2 Gas Turbine); Unit IGT3 (Unit 3 Gas Turbine)**

*1. Visible Emissions (This standard is in Paragraph I.C.1 of this Attachment)*

a. LIQUID FUEL

Permittee shall monitor opacity according to the following schedule:

- (1) If liquid fuel is burned in a unit continuously for a time period greater than 48 hours but less than 168 hours, at least one opacity reading will be observed at the exit of the unit's stack.
- (2) If liquid fuel is burned in a unit continuously for a time period greater than 168 hours, at least one opacity reading will be observed during each 168 hour period, at the exit of the unit's stack.

All opacity readings will be observed in accordance with EPA Reference Method 9. Permittee shall log in ink or in an electronic format and maintain a record of the opacity readings from above and the number of hours fuel oil is burned continuously.

[A.A.C. R18-2-306.A.3]

*2. Particulate Matter (Standard in Paragraph I.C.2 of this Attachment)*

a. LIQUID FUEL

Permittee shall keep on record, along with the fuel firing rate, the contractual agreement with the liquid fuel vendor indicating the following information concerning the liquid fuel being fired:

- (1) The heating value; and
- (2) The ash content

[A.A.C. R18-2-306.A.3]

3. *Sulfur Dioxide (Standard in Paragraph I.C.3 of this Attachment)*

a. GASEOUS FUEL

Permittee shall monitor daily, the sulfur content of the fuel being combusted in these machines. This requirement may be complied with by maintaining a vendor-provided copy of that part of the Federal Energy Regulatory Commission (FERC)-approved Tariff agreement that limits transmission to pipeline quality natural gas of sulfur content less than 0.8 percent by weight. Permittee shall report any change in that part of the FERC approved Tariff agreement that limits transmission to pipeline quality natural gas of sulfur content less than 0.8 percent by weight. This report shall be submitted to ADEQ within 30 days of the change.

[A.A.C. R18-2-719.I]

b. LIQUID FUEL

- (1) Permittee shall keep records of fuel supplier certification including the following information:

- (a) The name of the oil supplier;
- (b) The sulfur content and the heating content of the oil from which the shipment came; and
- (c) The method used to determine the sulfur content of the oil.

Engineering calculations demonstrating compliance with the standard shall be performed each time there is a change in (b) above. These calculations shall be maintained in a record.

[A.A.C. R18-2-306.A.3]

- (2) Permittee shall report any daily period during which the fuel sulfur content exceeds 0.8 percent by weight.

[A.A.C. R18-2-719.J]

4. *Fuel Limitation*

Except for fuels during startup and/or flame stabilization, Permittee shall log in ink or in an electronic format a record of any change in fuel type including :

- a. Type of fuel change; and
- b. Date and time of fuel change

[A.A.C. R18-2-306.A.3]

5. *Hours of Operation*

Permittee shall keep track of the hours of operation until the performance tests specified in

Part IV.C of this Attachment are completed. Permittee shall compute and record rolling twelve month totals of the hours of operation till the performance tests are completed.

[A.A.C. R18-2-306.A.3]

**D. Unit IAUX (Auxiliary Boiler)**

*1. Visible Emissions*

Permittee shall report all 6-minute periods during which the visible emissions exceed 15 % opacity.

[A.A.C. R18-2-724.J]

*2. Fuel Limitation*

Except for fuels during startup and/or flame stabilization, Permittee shall log in ink or in an electronic format a record of any change in fuel type including :

- a. Type of fuel change; and
- b. Date and time of fuel change.

[A.A.C. R18-2-306.A.3]

*3. Hours of Operation*

Permittee shall keep track of the hours of operation till the performance test specified in Part IV.D of this Attachment is completed. Permittee shall compute and record rolling twelve month totals of the hours of operation till the performance test is completed.

[A.A.C. R18-2-306.A.3]

**E. Unit IGT1A (Gas Turbine 1 Diesel Starter Engine); Unit IGT2A (Gas Turbine 2 Diesel Starter Engine); Unit IGT3A (Gas Turbine 3 Diesel Starter Engine)**

*1. Visible Emissions (Standard in Paragraph I.F.1 of this Attachment)*

Permittee shall monitor opacity according to the following schedule:

- a. If liquid fuel is burned in a unit continuously for a time period greater than 48 hours but less than 168 hours, at least one opacity reading will be observed at the exit of the unit's stack.
- b. If liquid fuel is burned in a unit continuously for a time period greater than 168 hours, at least one opacity reading will be observed during each 168 hour period at the exit of the unit's stack.

All opacity readings will be observed in accordance with EPA Reference Method 9. Permittee shall log in ink or in an electronic format and maintain a record of the opacity readings from above and the number of hours fuel oil is burned continuously.

[A.A.C. R18-2-306.A.3]

2. *Particulate Matter (Standard in Paragraph I.F.2 of this Attachment)*

Permittee shall keep on record, along with the fuel firing rate, the contractual agreement with the liquid fuel vendor indicating the following information concerning the liquid fuel being fired:

- a. The heating value; and
- b. The ash content

Permittee shall calculate the particulate matter emissions based on the above in the units of the applicable standard. Permittee shall perform this calculation each time there is a change related to (a) or (b) above in the contractual agreement. These calculations shall be maintained in a record.

[A.A.C. R18-2-306.A.3]

3. *Sulfur Dioxide (Standard in Paragraph I.F.3 of this Attachment)*

- a. Permittee shall keep records of fuel supplier certification including the following information:

- (1) The name of the oil supplier;
- (2) The sulfur content and the heating content of the oil from which the shipment came; and
- (3) The method used to determine the sulfur content of the oil.

Engineering calculations demonstrating compliance with the standard shall be performed each time there is a change in (2) above. These calculations shall be maintained in a record.

[A.A.C. R18-2-306.A.3]

- b. Permittee shall report any daily period during which the fuel sulfur content exceeds 0.8 percent by weight.

[A.A.C. R18-2-719.I]

**F. Coal Handling System (Rotary Car Dumper Enclosure, As Received Sampler Enclosure, Live Coal Storage Enclosure, Crusher Tower Enclosure, Tower 4 Enclosure, Conveyors: C2, C4, C5, C6, C7A, C7B)**

1. *Visible Emissions (Standards in Paragraph I.G.1 of this Attachment)*

- a. A certified Method 9 observer shall conduct a weekly visual survey of visible emissions from the coal preparation plant when it is in operation. This weekly survey shall include observation of all exposed transfer points, enclosed transfer points, the coal storage pile, and the baghouses in the coal handling system. Permittee shall record the name of the observer, date on which the observation was made, and the results of the observation.

[A.A.C. R18-2-306.A.3]



b. If the observer sees a plume from an emission point that on an instantaneous basis appears to exceed 40% opacity, the observer shall if possible take a six-minute Method 9 observation of the plume. [A.A.C. R18-2-306.A.3]

c. If the six-minute opacity of the plume exceeds 40%, the Permittee shall do the following:

- (1) Adjust or repair the controls or equipment to reduce opacity to below 40%; and
- (2) Report it as an excess emission in accordance with Section XII.A of Attachment A of this permit.

[A.A.C. R18-2-306.A.3]

d. If the six-minute opacity of the plume is less than 40%, the observer shall make a record of the following:

- (1) Date and time of the test; and
- (2) The results of the Method 9 observation.

[A.A.C. R18-2-306.A.3]

2. *Particulate Matter (Standard in Paragraph I.G.2 of this Attachment)*

a. Permittee shall maintain and operate all air pollution control equipment in accordance with best management practices. These specifications shall be on file and shall be readily available for inspection by the Department. [A.A.C. R18-2-306.A.3]

b. Permittee shall maintain records of emissions related maintenance performed on all air pollution control equipment. [A.A.C. R18-2-306.A.3]

**G. Fly Ash Handling (*Flyash Silo A, Flyash Silo B, Flyash Storage Tank #4*)**

1. *Visible Emissions (Standard in Paragraph I.H.1 of this Attachment)*

a. A certified Method 9 observer shall conduct a weekly visual survey of visible emissions from the flyash handling system when it is in operation. This weekly survey shall include observation of the flyash silos A and B vent and dust collectors, the flyash storage tank #4 dust collector, and exposed transfer points. Permittee shall record the name of the observer, date on which the observation was made, and the results of the observation.

[A.A.C. R18-2-306.A.3]

b. If the observer sees a plume from an emission point that on an instantaneous basis appears to exceed 40% opacity, the observer shall if possible take a six-minute Method 9 observation of the plume. [A.A.C. R18-2-306.A.3]

c. If the six-minute opacity of the plume exceeds 40%, the Permittee shall do the following:

- (1) Adjust or repair the controls or equipment to reduce opacity to below 40%; and

- (2) Report it as an excess emission in accordance with Section XII.A of Attachment A of this permit.

[A.A.C. R18-2-306.A.3]

- d. If the six-minute opacity of the plume is less than 40%, the observer shall make a record of the following:

- (1) Date and time of the test; and
- (2) The results of the Method 9 observation.

[A.A.C. R18-2-306.A.3]

2. *Particulate Matter (Standard in Paragraph I.H.2 of this Attachment)* A.A.C. R18-2-306.A.2]

- a. Permittee shall maintain and operate all air pollution control equipment in accordance with best management practices. These specifications shall be on file and shall be readily available for inspection by the Department.
- b. Permittee shall maintain records of emissions related maintenance performed on all air pollution control equipment.

**H. Emergency Coal Storage Pile**

The emergency coal storage pile shall be included in the monitoring schedule specified in Part III.F of this Attachment.

[A.A.C. R18-2-306.A.3]

**I. Open Areas, Roadways & Streets, Storage Piles, and Material Handling**

Permittee shall maintain records of dates and type of control measures adopted pursuant to Paragraph I.K.2 of this Attachment.

[A.A.C. R18-2-306.A.3]

**J. Other Non-Point Sources**

1. OPEN BURNING

Permittee shall maintain copies of all open burning permits on file.

[A.A.C. R18-2-306.A.3]

2. ABRASIVE BLASTING

Each time an abrasive blasting project is conducted, the Permittee shall log in ink or in an electronic format, a record of the following:

- a. The date the project was conducted
- b. The duration of the project
- c. Type of control measures employed

[A.A.C. R18-2-306.A.3]

3. USE OF PAINTS

- a. Each time a spray painting project is conducted, the Permittee shall log in ink or in an electronic format, a record of the following:

- (1) The date the project was conducted
- (2) The duration of the project
- (3) Type of control measures employed
- (4) Material Safety Data Sheets for all paints and solvents used in the project

[A.A.C. R18-2-306.A.3]

- b. Architectural coating and spot painting projects shall be exempt from the recordkeeping requirements of Sub-Paragraph III.J.3 a above.

[A.A.C. R18-2-306.A.3]

#### 4. MOBILE SOURCES

The Permittee shall keep a record of all emissions related maintenance activities performed on Permittee's mobile sources, as defined in Paragraph I.L.4 of this Attachment, utilized within the station property line as per manufacturers specifications.

[A.A.C. R18-2-306.A.3]

#### 5. DEMOLITION/RENOVATION

Permittee shall keep all required records in a file. The required records include the "NESHAP Notification for Renovation and Demolition Activities" form and all supporting documents.

[A.A.C. R18-2-306.A.3]

#### 6. NONVEHICLE AIRCONDITIONER MAINTENANCE AND/OR SERVICES

Permittee shall keep all records required by the applicable requirements of 40 CFR 82 - Subpart F in a file.

[A.A.C. R18-2-306.A.3]

### K. **Hot Water and Space Heaters**

Permittee shall report all 6-minute periods during which the visible emissions exceed 15 % opacity.

[A.A.C. R18-2-724.J]

### L. **Allied Signal Microturbine**

#### 1. *Particulate Matter (Standard in Paragraph I.N.2 of this Attachment)*

Permittee shall keep on record engineering calculations that demonstrate compliance with the Particulate Matter standard listed in Paragraph I.N.2 above.

[A.A.C. R18-2-306.A.3]

- 2. Permittee shall report to the Director any daily period during which the sulfur content of the fuel being fired in the 40kW Allied Signal microturbine exceeds 0.8 percent. This requirement may be complied with in the following manner:

- a. Permittee shall keep on record that part of the agreement with the natural gas supplier that limits transmission to "pipeline-quality" natural gas.
- b. Permittee shall report any changes in sulfur content of the fuel. This report shall be submitted to the Director within 30 days of the change.

[A.A.C. R18-2-719.I]

M. Within 180 days of issuance of this permit the owner or operator shall have on staff a person that is certified in EPA Reference Method 9.

[A.A.C. R18-2-306.A.3]

N. At the time the compliance certifications required by Section VII of Attachment "A" are submitted, the Permittee shall submit reports of all monitoring activities required by Section III of this Attachment during the period for which the compliance certifications are submitted.

[A.A.C. R18-2-306.A.5.a]

#### IV. TESTING REQUIREMENTS

A. **Unit I1 (Unit 1 Boiler); Unit I2 (Unit 2 Boiler); Unit I3 (Unit 3 Boiler)**

1. *Sulfur Dioxide*

While burning liquid fuel as the main fuel on an annual basis, Permittee shall perform an annual performance test in accordance with EPA Reference Method 6 or 6C. For the purposes of this Paragraph, liquid fuel shall be considered as the main fuel if it is used for greater than 1300 hours of operation on an annual basis.

[A.A.C. R18-2-306.A.3]

2. *Nitrogen Oxides*

Unit I3 is currently classified as a peaking unit pursuant to 40 CFR 72.2 ("peaking unit" definition). If Unit I3 loses this peaking unit classification, Permittee shall perform one performance test on Unit I3 during the course of the permit term once after the rolling twelve month total hours of operation of Unit I3 exceeds 680 hours, to measure the emission rate of Nitrogen Oxides. This performance test shall be performed in accordance with EPA Reference Method 7.

[A.R.S. 49-422]

3. *Carbon Monoxide*

Permittee shall perform one performance test during the course of the permit term, to measure the emission rate of Carbon Monoxide. This performance test shall be performed in accordance with EPA Reference Method 10, and according to the following schedule :

- a. For Units I1 and I2 : Once after the rolling twelve month total hours of operation exceeds 6250 hours.
- b. For Unit I3 : If Unit I3 loses the "peaking unit" classification, Permittee shall perform one

performance test on Unit I3 during the course of the permit term once after the rolling twelve month total hours of operation of Unit I3 exceeds 4750 hours, to measure the emission rate of Carbon Monoxide. [A.R.S. 49-422]

**B. Unit I4 (Unit 4 Boiler)**

1. Permittee shall conduct a performance test for visible emissions, particulate matter, sulfur dioxide, and nitrogen oxides each year within 90 days of the anniversary date of the permit, or a date other than the anniversary date of the permit as submitted by the Permittee and approved by the Director or the Director's designee. The compliance test shall be conducted while firing coal and at the maximum normal operating load of the unit or other load as approved by the Director. If the unit is not burning coal during the 90 days prior to the applicable date of the compliance test, the test shall be conducted at a later date as soon as practicable after the unit commences the firing of coal, but not later than 30 days after the unit commences the firing of coal. Performance tests shall be conducted in accordance with EPA Reference Method 9 for visible emissions, EPA Reference Method 5 for particulate matter, EPA Reference Method 6 for sulfur dioxide, and EPA Reference Method 7 for nitrogen oxides. [A.A.C. R18-2-306.A.3]

2. At the time of the first set of annual performance tests for other pollutants, Permittee shall also conduct one set of performance tests for carbon monoxide using EPA Reference Method 10. [A.A.C. R18-2-306.A.3]

**C. Unit IGT1 (Unit 1 Gas Turbine); Unit IGT2 (Unit 2 Gas Turbine); Unit IGT3 (Unit 3 Gas Turbine)**

*1. Sulfur Dioxide*

While burning liquid fuel as the main fuel on an annual basis, Permittee shall perform an annual performance test in accordance with EPA Reference Method 6 or 6C. For the purposes of this Paragraph, liquid fuel shall be considered as the main fuel if it is used for greater than 1300 hours of operation on an annual basis.

[A.A.C. R18-2-306.A.3]

*2. Nitrogen Oxides*

Permittee shall perform one performance test during the course of the permit term, to measure the emission rate of Nitrogen Oxides. This performance test shall be conducted after the twelve month rolling total hours of operation exceeds 730 hours. The performance test shall be performed in accordance with EPA Reference Method 20. [A.R.S. 49-422]

*3. Carbon Monoxide*

Permittee shall perform one performance test during the course of the permit term, to measure the emission rate of Carbon Monoxide. This performance test shall be conducted after the

twelve month rolling total hours of operation exceeds 4500 hours. The performance test shall be performed in accordance with EPA Reference Method 10. [A.R.S. 49-422]

# ATTACHMENT "C": APPLICABLE REQUIREMENTS

## Air Quality Control Permit No. 1000102 For *Tucson Electric Power - Irvington Generating Station*

### REQUIREMENTS SPECIFICALLY IDENTIFIED AS APPLICABLE

Compliance with the terms contained in this permit shall be deemed compliance with the following federally applicable requirements in effect on the date of permit issuance:

#### ARIZONA ADMINISTRATIVE CODE (A.A.C.) TITLE 18, Chapter 2

#### ARTICLE 6. EMISSIONS FROM EXISTING AND NEW NONPOINT SOURCES

- R18-2-601 General
- R18-2-602 Unlawful Open Burning
- R18-2-604 Open Areas, Dry Washes, or Riverbeds
- R18-2-605 Roadways and Streets
- R18-2-606 Material Handling
- R18-2-607 Storage Piles
- R18-2-610 Evaluation of Nonpoint Source Emissions

#### ARTICLE 7. EXISTING STATIONARY SOURCE PERFORMANCE STANDARDS

- R18-2-702.B General Provisions
- R18-2-703.B Standards of Performance for Existing Fossil-fuel Fired Steam Generators and General Fuel-burning Equipment
- R18-2-703.C.1 Standards of Performance for Existing Fossil-fuel Fired Steam Generators and General Fuel-burning Equipment
- R18-2-703.E.1 Standards of Performance for Existing Fossil-fuel Fired Steam Generators and General Fuel-burning Equipment
- R18-2-703.H Standards of Performance for Existing Fossil-fuel Fired Steam Generators and General Fuel-burning Equipment
- R18-2-703.G.1 Standards of Performance for Existing Fossil-fuel Fired Steam Generators and General Fuel-burning Equipment
- R18-2-716.B Standards of Performance for Existing Coal Preparation Plants
- R18-2-716.D Standards of Performance for Existing Coal Preparation Plants
- R18-2-716.E Standards of Performance for Existing Coal Preparation Plants
- R18-2-719.B Standards of Performance for Existing Stationary Rotating Machinery
- R18-2-719.C.1 Standards of Performance for Existing Stationary Rotating Machinery
- R18-2-719.E Standards of Performance for Existing Stationary Rotating Machinery
- R18-2-719.F Standards of Performance for Existing Stationary Rotating Machinery
- R18-2-719.H Standards of Performance for Existing Stationary Rotating Machinery
- R18-2-719.I Standards of Performance for Existing Stationary Rotating Machinery
- R18-2-719.J Standards of Performance for Existing Stationary Rotating Machinery
- R18-2-724.B Standards of Performance for Fossil-fuel Fired Industrial and Commercial Equipment
- R18-2-724.C.1 Standards of Performance for Fossil-fuel Fired Industrial and Commercial Equipment

R18-2-724.E Standards of Performance for Fossil-fuel Fired Industrial and Commercial Equipment

## **ATTACHMENT "C": APPLICABLE REQUIREMENTS (Contd.)**

R18-2-724.G Standards of Performance for Fossil-fuel Fired Industrial and Commercial Equipment

R18-2-724.J Standards of Performance for Fossil-fuel Fired Industrial and Commercial Equipment

R18-2-726 Standards of Performance for Sandblasting Operations

R18-2-727 Standards of Performance for Spray Painting Operations

SIP R9-2-527.C Standards of Performance for Spray Painting Operations

R18-2-730.A.1 Standards of Performance for Unclassified Sources

R18-2-730.D Standards of Performance for Unclassified Sources

R18-2-730.F Standards of Performance for Unclassified Sources

R18-2-730.G Standards of Performance for Unclassified Sources

SIP R-3-516(A)(2)(b) Standards of Performance for Existing Coal Preparation Plants

### ARTICLE 8: EMISSIONS FROM MOBILE SOURCES (NEW AND EXISTING)

R18-2-801 Classification of mobile sources

R18-2-802 Off-road machinery

R18-2-804 Roadway and site cleaning machinery

### ARTICLE 11: FEDERAL HAZARDOUS AIR POLLUTANTS

R18-2-1101.A.8 National Emission Standards for Hazardous Air Pollutants (NESHAPs), (by reference) 40 CFR 61, Subpart M - Asbestos

### **PIMA COUNTY CODE (PCC)**

PCC 17.16.020.B

PCC 17.16.040

PCC 17.16.050

PCC 17.16.070.A

PCC 17.16.080

PCC 17.16.090.A, .B, .D, .F

PCC 17.16.100.C, .E

PCC 17.16.110

PCC 17.16.130.C

PCC 17.16.160.B, .C.1, .D.1, .F, .G, .H.3

PCC 17.16.165.B, .C.1, .D, .E, .G, .J

PCC 17.16.310.B.2, .D, .E

PCC 17.16.340.B, .C.1, .D, .E, .F, .I, .J

PCC 17.16.430.A.1.a, .B, .D

PCC 17.16.440.B

PCC 17.16.450

PCC 17.16.470

Pima County SIP Rule 315(F)

Pima County SIP Rule 343



## **ATTACHMENT "C": APPLICABLE REQUIREMENTS (Contd.)**

### **CODE OF FEDERAL REGULATIONS, PART 40**

40 CFR Part 82-Subpart F	Protection of Stratospheric Ozone (Recycling and Emissions Reduction)
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40 CFR Part 68	Chemical Accident Prevention Provisions
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**Installation Permit # 1156**

## ATTACHMENT "D": EQUIPMENT LIST

### Air Quality Control Permit No. 1000102 For *Tucson Electric Power - Irvington Generating Station*

Permitted Equipment					
Equipment ID	Description	Size	Serial Number	Model	Date of Manufacture /Installation
I1	Steam Electric Generating Unit	81 MW Net	18580	Combustion Engineering	1957
I2	Steam Electric Generating Unit	80 MW Net	19065	Combustion Engineering	1959
I3	Steam Electric Generating Unit	104 MW Net	19485	Combustion Engineering	1961
I4	Steam Electric Generating Unit	110 MW Net: Coal 156 MW Net : Gas/Oil	75-19487	Foster Wheeler	1964
IGT1	Simple cycle gas turbine generating unit	24 MW Net	1782088-1	Westinghouse	1972
IGT2	Simple cycle gas turbine generating unit	24.5 MW Net	1782086-1	Westinghouse	1972
IGT3	Simple cycle gas turbine generating unit	24.7 MW Net	1782084-1	Westinghouse	1973
IAUX	Auxiliary boiler	57,000 lb/hr	23583	Babcock-Wilcox	1972
IIE	Steam unit cooling tower	NA	FD90980	Fluor Products	1957
I2D	Steam unit cooling tower	NA	FD92580	Fluor Products	1959
I3D	Steam unit cooling tower	NA	663-3-10	Marley Co.	1961
I4E	Steam unit cooling tower	NA	6645-12-36-3	Marley Co.	1964

Permitted Equipment					
Equipment ID	Description	Size	Serial Number	Model	Date of Manufacture /Installation
IGT1A	Gas turbine diesel starter	635 hp	772267-3	Cummins	NA
IGT2A	Gas turbine diesel starter	635 hp	769853-3	Cummins	NA
IGT3A	Gas turbine diesel starter	635 hp	778518-3	Cummins	NA
I1B	Turbine lube oil vapor extractor	NA	5700G-51	Roots Corp.	NA
I2B	Turbine lube oil vapor extractor	NA	54021	Roots Corp.	NA
I3B	Turbine lube oil vapor extractor	NA	1009-AH	Clarage Fan Co.	NA
I4B	Turbine lube oil vapor extractor	NA	6508-G-13	Roots Corp.	NA
I1C	Generator bearing drain vapor extractor	NA	5700G-203D	Roots Corp.	NA
I2C	Generator bearing drain vapor extractor	NA	NA	NA	NA
I3C	Generator bearing drain vapor extractor	NA	NA	NA	NA
I4C	Generator bearing drain vapor extractor	NA	5300G183	NA	NA
I1D	Generator bearing drain vacuum pump	NA	93-0535F6552-4	GS Kinney Vacuum - KD-30/A	NA
I4D	Generator bearing drain vacuum pump	NA	93-0535F6626-4	GS Kinney Vacuum - KD-30/A	NA
IGT1B	Turbine lube oil vapor extractor	0.5hp/1A/230V	5K49FG164	Westinghouse	NA

Permitted Equipment					
Equipment ID	Description	Size	Serial Number	Model	Date of Manufacture /Installation
IGT2B	Turbine lube oil vapor extractor	0.5hp/1A/230V	5K39FG357	Westinghouse	NA
IGT3B	Turbine lube oil vapor extractor	0.5hp/1A/230V	5K49FG2080	Westinghouse	NA
C2	Rotary car dumper dust collector	NA	RFC-1178	Carter Day 276-RF-8	NA
C3	Live coal storage facility dust collector	NA	RFC-1179	Carter Day 376-RF-8	NA
C5	Crusher facility dust collector	NA	RFC-1180	Carter Day 276-RF-8	NA
C6	Tower 4 dust collector	NA	RFC-1181	Carter Day 232-RF-8	NA
C10	Live coal storage ventilation fans	NA	84-40132-4-1/-3-1	Twin Cities Fan and Blower	NA
A1	Flyash Silo A collector	NA	13-61-18999	Flex-Clean 100 CTBC 98 IIIG	NA
A1A	Flyash Silo A vent collector	NA	13-94-19000	Flex-Clean 100-WRBC-9611	NA
A2	Flyash Silo B collector	NA	13-61-18999	Flex-Clean 100 CTBC 98 111 G	NA
A2A	Flyash Silo B vent collector	NA	13-94-19000	Flex-Clean 100 WRBC 9611	NA
A3	Flyash Storage Tank #4 dust collector	NA	86410H1	Mikropul Corp. - Mikro Pulsaire	NA
FH1	Fuel oil storage tank #1	524,072 gal	NA	Austed - vertical, steel, fixed cone roof	1957
FH2	Fuel oil storage tank #2	524,072 gal	NA	Austed-vertical, steel, fixed cone roof	1958

Permitted Equipment					
Equipment ID	Description	Size	Serial Number	Model	Date of Manufacture /Installation
FH3	Fuel oil storage tank #3	756,084 gal	NA	Consolidated Western-vertical, steel, fixed cone roof	1961
FH6	Fuel oil storage tank #6	3,034,858 gal	NA	Garland-vertical, steel, fixed cone roof	1971
FH7	Fuel oil storage tank #7	3,034,858 gal	NA	Garland-vertical, steel, fixed cone roof	1971
FH8	Fuel oil storage tank #8	10,612,951 gal	NA	GATX-vertical, steel, fixed cone roof	1972
FH9	Fuel oil storage tank #9	10,612,951 gal	NA	GATX-vertical, steel, fixed cone roof	1972
FH10	Fuel oil storage tank #10	10,612,951 gal	NA	GATX-vertical, steel, fixed cone roof	1973
I16-21, WH1-2, GS1-8, TRAN4-12	Miscellaneous hot water and space heaters	misc.	misc.	misc.	misc.
-	Microturbine	40 kW	4	Alpha	2/1998
Nonpoint Sources	--	--	--	--	--
Sand Blasting	--	--	--	--	--
Spray Painting	--	--	--	--	--

## ATTACHMENT "D": EQUIPMENT LIST (contd.)

### CONTINUOUS EMISSIONS MONITORING SYSTEMS

UNIT I1					
POLLUTANT / PARAMETER	METHOD	MANUFACTURE	MODEL	RANGE	S / N
Oxygen	Zirconium Oxide	Anarad	AR-22B	0-20.9 %	5135
NOx	Chemiluminesence	Anarad	AR-880	0 - 400 ppm	5134
Fuel Flow	Orifice	Daniels, Inc.	Senior Orifice Fitting/100	0 - 900 kscfh	S0116
UNIT I2					
POLLUTANT / PARAMETER	METHOD	MANUFACTURE	MODEL	RANGE	S / N
Oxygen	Zirconium Oxide	Anarad	AR-22B	0-20.9 %	5118
Nox	Chemiluminesence	Anarad	AR-880	0 - 400 ppm	5117
Fuel Flow	Orifice	Daniels, Inc.	Senior Orifice Fitting/100	0 - 900 kscfh	581453
UNIT I3					

<b>POLLUTANT / PARAMETER</b>	<b>METHOD</b>	<b>MANUFACTURE</b>	<b>MODEL</b>	<b>RANGE</b>	<b>S / N</b>
Fuel Flow	Orifice	Daniels, Inc.	Senior Orifice Fitting/101	0 - 1200 kscfh	61976
<b>UNIT I4</b>					
<b>POLLUTANT / PARAMETER</b>	<b>METHOD</b>	<b>MANUFACTURE</b>	<b>MODEL</b>	<b>RANGE</b>	<b>S / N</b>
Oxygen	Zirconium Oxide	Anarad	AR-23	0-20.9 %	5123
NOx	Chemiluminesence	Anarad	AR-880	0 - 400 ppm	5121
Sulfur Dioxide	Non-dispersive ultraviolet	Anarad	AR-30C	0 - 700 ppm	5122
Mass Flow	Constant temperature anemometer thermal array	Kurz	4500	0-3.29 X 10 <sup>7</sup> scfh	138A-D/1-3
Opacity	Electro-optical, double pass	Dynatron	1100M	0 - 100 %	11980M

## ATTACHMENT "E": INSIGNIFICANT ACTIVITIES

**Air Quality Control Permit No. 1000102**  
**For**  
***Tucson Electric Power - Irvington Generating Station***

S. No.	ID	INSIGNIFICANT ACTIVITY NAME
1	C21	Power Production - Rotary Car Dumper Latrine Vent/Septic System
2	C22	Power Production - Crusher Tower Latrine Vent/Septic System
3	FH9	Power Production - Condensate Return Collection Sump Vents
4	FH10	Power Production - Fuel Oil Unloading/Transfer/Pumping and Piping Facilities
5	FH11	Power Production - Waste Oil Drums
6	A6	Power Production - Flyash Latrine Vents
7	CHEM1	Power Production - North 12,000 gal 93% Sulfuric Acid Storage Tank
8	CHEM2	Power Production - North 12,000 gal 50% Liquid NaOH Storage Tank
9	CHEM3	Power Production - North Water Treatment Chemical Storage Bins/Barrels
10	CHEM4	Power Production - North Cooling Tower Treatment Room
11	CHEM5	Power Production - North Boiler Water Treatment Area
12	CHEM6	Power Production - South 12,000 gal 93% Sulfuric Acid Storage Tank
13	CHEM7	Power Production - South Water Treatment Chemical Storage Bins/Barrels
14	CHEM8	Power Production - South Cooling Tower Treatment Room
15	CHEM9	Power Production - South Boiler Water Treatment Area
16	CHEM10	Power Production - Demineralizer Vacuum Degasifier (2)
17	CHEM11	Power Production - Coal Laboratory Latrine Vent/Septic System
18	CHEM12	Power Production - Fume Hood
19	CHEM13	Power Production - Water Laboratory Fume Hood
20	CHEM14	Power Production Coal Laboratory Heater
21	CHEM15	Power Production - Boiler Feedwater Storage Tanks (6)
22	WW1	Power Production - North Collection Sump-Boiler Blowdown, Demineralizer Regenerant
23	WW2	Power Production - South Collection Sump (2) - Rain Runoff, Ash/Coal Area Washdown



S. No.	ID	INSIGNIFICANT ACTIVITY NAME
24	WW3	Power Production - Bottom Ash Runoff Collection Sump
25	WW4	Power Production - Plant Waste Basin-Boiler Blowdown, Demineralizer Regenerant
26	WW5	Power Production - Coal Pile Runof Basin- Rain Runoff, Ash/Coal Area Washdown
27	WW6	Power Production - Evaporation Basin (3) - Treated Wastewater from Plant Waste/Coal Pile Runoff Basin
28	WW7	Power Production - Waste Water Treatment Latrine Vent/Septic System
29	WW8	Power Production - Waste Water Treatment 5,000 gal 93% Sulfuric Acid Tank
30	WW9	Power Production - Waste Water Treatment 5,000 gal 50% Liquid NaOH Tank
31	WW10	Power Production - Waste Water Treatment Clarifier - Wastewater 140,000 gal
32	WW11	Power Production - Waste Water Treatment Scum Tank-Clarifier Scum for recycle 1170 gal
33	WW12	Power Production - Waste Water Treatment pH Adjustment Tank- Pretreated Wastewater 6768 gal
34	WW13	Power Production - Waste Water Treatment pH Adjustment Tank- Treated Wastewater 5000 gal
35	WW14	Power Production - Waste Water Treatment Chemical Mix Tank (2) - Alum 730 gal
36	WW15	Power Production - Waste Water Treatment Chemical Mix Tank (2) - Polymer 148 gal
37	I1A	Power Production - Unit #1 Boiler Blowdown Flashtank
38	I1F	Power Production - North Turbine Lube Oil Storage Tank
39	I1G	Power Production - Unit #1 Fuel Gas Piping
40	I1H	Power Production - Unit #1 Fuel Gas Vents
41	I1I	Power Production - Unit #1 Boiler Safety Relief Valve Vents
42	I1J	Power Production - Unit #1 Steam/Drain Vents
43	I1K	Power Production - Unit #1 Main Transformer
44	I1L	Power Production - Unit #1 Auxiliary Transformer
45	I2A	Power Production - Unit #2 Boiler Blowdown Flashtank
46	I2E	Power Production - Unit #2 Fuel Gas Piping
47	I2F	Power Production - Unit #2 Fuel Gas Vents
48	I2G	Power Production - Unit #2 Boiler Safety Relief Valve Vents
49	I2H	Power Production - Unit #2 Steam/Drain Vents

S. No.	ID	INSIGNIFICANT ACTIVITY NAME
50	I2I	Power Production - Unit #2 Main Transformer
51	I2J	Power Production - Unit #2 Auxiliary Transformer
52	I3A	Power Production - Unit #3 Boiler Blowdown Flashtank
53	I3E	Power Production - South Turbine Lube Oil Storage Tank
54	I3F	Power Production - Unit #3 Fuel Gas Piping
55	I3G	Power Production - Unit #3 Fuel Gas Vents
56	I3H	Power Production - Unit #3 Boiler Safety Relief Valve Vents
57	I3I	Power Production - Unit #3 Steam/Drain Vents
58	I3J	Power Production - Unit #3 Main Transformer
59	I3K	Power Production - Unit #3 Auxiliary Transformer
60	I4A	Power Production - Unit #4 Boiler Blowdown Flashtank
61	I4F	Power Production - Unit #4 Fuel Gas Piping
62	I4G	Power Production - Unit #4 Fuel Gas Vents
63	I4H	Power Production - Unit #4 Boiler Safety Relief Valve Vents
64	I4I	Power Production - Unit #4 Steam/Drain Vents
65	I4J	Power Production - Unit #4 Main Transformer
66	I4K	Power Production - Unit #4 Auxiliary Transformer
67	I5	Power Production - Power Block Latrine Vents
68	I6	Power Production - Engineering Building Latrine Vents
69	I7	Power Production - Power Block Used Oil Storage Drums
70	I8	Power Production - Power Block Battery Rooms
71	I9	Power Production - Common Facilities Battery Room
72	I11	Power Production - Mechanical Maintenance Flammable Storage cabinets
73	I12	Power Production - Switchyard Circuit Breakers/Transformers
74	I14	Power Production - Maintenance Shop Welding Activities/Vents
75	I72	Power Production - #5 Fire/Dust Control Water Storage Tank 3,000,000 gal
76	I73	Power Production - Service Water Pressure/Storage Tank 150,000 gallons
77	SS1	Servicenter - HVAC Cooling Tower
78	SS2	Servicenter - Reproduction Equipment
79	SS4	Servicenter - Latrine Vents

S. No.	ID	INSIGNIFICANT ACTIVITY NAME
80	WH4	Warehouse - Latrine Vents
81	GS9	General Shop - Furnace 75 kBTU
81	GS10	General Shop - Latrine Vents
83	TRAN1	Transportation - New/Used Lubricating Oil Storage
84	TRAN2	Transportation - Underground Diesel Storage 15,000 gal
85	TRAN13	Transportation - Latrine Vents
86	OH1	Operating Headquarters - HVAC Cooling Tower
87	OH4	Operating Headquarters - Latrine Vents
88	OH5	Operating Headquarters - Training Center Latrine Vents
89	OH6	Operating Headquarters - Trailer Latrine Vents
90	FH1	Fuel Oil Storage Tank #1
91	FH2	Fuel Oil Storage Tank #2
92	FH3	Fuel Oil Storage Tank #3
93	FH6	Fuel Oil Storage Tank #6
94	FH7	Fuel Oil Storage Tank #7
95	FH8	Fuel Oil Storage Tank #8
96	FH9	Fuel Oil Storage Tank #9
97	FH10	Fuel Oil Storage Tank #10

# ATTACHMENT "F": PHASE II ACID RAIN PERMIT

## Air Quality Control Permit No. 1000102 For *Tucson Electric Power - Irvington Generating Station*

### I. Statement of Basis

Statutory and Regulatory Authorities: In accordance with Arizona Revised Statutes, Title 49, Chapter 3, Article 2, Section 426.N, and Titles IV and V of the Clean Air Act, the Arizona Department of Environmental Quality issues this Phase II Acid Rain Permit pursuant to Arizona Administrative Code, Title 18, Chapter 2, Article 3, Section 333 ( A.A.C. R18-2-333), "Acid Rain".

### II. SO<sub>2</sub> Allowance<sup>1</sup> Allocations and NO<sub>x</sub> Requirements for each affected unit

		1998	1999	2000	2001	2002	2003	2004
Unit 1	SO <sub>2</sub> allowances under Tables 2, 3, or 4 of 40 CFR part 73	NA	NA	16*	16*	16*	16*	16*
	NO <sub>x</sub> limit	This unit is not subject to a NO <sub>x</sub> limit under 40 CFR Part 76.						

		1998	1999	2000	2001	2002	2003	2004
Unit 2	SO <sub>2</sub> allowances under Tables 2, 3, or 4 of 40 CFR part 73	NA	NA	28*	28*	28*	28*	28*
	NO <sub>x</sub> limit	This unit is not subject to a NO <sub>x</sub> limit under 40 CFR Part 76.						

		1998	1999	2000	2001	2002	2003	2004
Unit 3	SO <sub>2</sub> allowances under Tables 2, 3, or 4 of 40 CFR part 73	NA	NA	0*	0*	0*	0*	0*
	NO <sub>x</sub> limit							

	1998	1999	2000	2001	2002	2003	2004
	NO <sub>x</sub> limit	This unit is not subject to a NO <sub>x</sub> limit under 40 CFR Part 76.					

		1998	1999	2000	2001	2002	2003	2004
<b>Unit 4</b>	SO <sub>2</sub> allowances under Tables 2, 3, or 4 of 40 CFR part 73	NA	NA	2831*	2831*	2831*	2831*	2831*
	NO <sub>x</sub> limit	<p>Pursuant to 40 CFR Part 76, the Arizona Department of Environmental Quality approves a NO<sub>x</sub> emission limitation compliance plan for Unit 4. The compliance plan is effective for calendar year 2000 through calendar year 2004. Under the compliance plan, this unit's annual average NO<sub>x</sub> emission rate for each year, determined in accordance with 40 CFR Part 75, shall not exceed the applicable emission limitation, under 40 CFR Part 76.7(a)(2), of 0.46 lb/MMBTU for wall-fired boilers.</p> <p>In addition, this unit shall comply with all other applicable requirements of 40 CFR Part 76, including the duty to reapply for a NO<sub>x</sub> compliance plan and requirements covering excess emissions.</p>						

<sup>1</sup> As defined under 40 CFR §72.2, "Allowance" means an authorization by the Administrator under the Acid Rain Program to emit up to one ton of sulfur dioxide during or after a specified calendar year.

\* The number of allowances allocated to Phase II affected units by U.S. EPA may change in a 1998 revision to 40 CFR part 73 Tables 2, 3, and 4. In addition, the number of allowances actually held by an affected source in a unit account may differ from the number allocated by U.S. EPA. Neither of the aforementioned conditions necessitate a revision to the unit SO<sub>2</sub> allowance allocations identified in this permit (See 40 CFR 72.84).

### III. Acid Rain Permit Application

The Permittee, and any other owners or operators of the units at this facility, shall comply with the requirements contained in the two attached acid rain permit applications. These applications are :

- (1) Phase II Permit Application (OMB No. 2060-0258) signed by the Designated Representative on 12/12/95.
- (2) Phase II NO<sub>x</sub> Compliance Plan (OMB No. 2060-0258) signed by the Designated Representative on 12/15/97.